1 INTRODUCTION TO THE WORKBOOK

The FUNCTION POINT WORKBENCH™ is an interactive software tool designed to help you record, analyse and report all aspects of Function Point Analyses.

The Tutorials are designed to lead you through the more important features and operations of the FUNCTION POINT WORKBENCH™. They will introduce you to the counting methodology embedded in the WORKBENCH.

These tutorials are not intended to teach you the rules of Function Point Analysis. For information in this regard, refer to the IFPUG Counting Practices Manual.

The Introductory Tutorials are presented as four self-contained units:

- **TUTORIAL 1: Examining a Function Point Count for a Development Project:**

  You will learn the basic WORKBENCH terminology, editing, reporting features and graphical presentation of a Function Point Analysis.

- **TUTORIAL 2: Creating a new Count for a Development Project or an Application:**

  You will create a Count for a Development Project, establish the Unadjusted Function Point Size, enter General System Characteristics, and obtain an Adjusted Function Point Count.

  Although the count you create is for a Development Project, the method used is the same for an Application Count.

✧ TUTORIAL 3: Examining an Enhancement Count:

You will observe and explore an Enhancement Function Point Count which is based on an existing Application Count.

✧ TUTORIAL 4: Creating an Enhancement Count:

You will create an Enhancement Function Point Count and base it on an existing Application Count.

There are also additional ‘advanced’ Tutorials on special topics.

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The Example Database

These Tutorials use the **Example** database supplied to you on your installation diskette. This database is normally in the directory /FPW5/DATA/EXAMPLE. The FPW5 directory is the directory where the WORKBENCH programs reside.

If you have not installed the Example database, install it now, following the instructions in the Installation Guide.

The **Example** database contains a set of 9 counts for an Application called the Requisition Rejection System. These counts are summarised in Table 1.

The counts follow the life cycle of an Application and are numbered in date order.

- The first group of counts (1-4) are for the initial Development Project which built the Application.
- Count 5 represents the Application as first implemented.
- Subsequent counts (6 - 9) follow a cycle of Enhancement Project to Application count.

In these Tutorials, some of these counts are visited. Investigate the others at your leisure.

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No	**Count Type**	**Project Name**	**Phase Name**	**Scenario**	**Develop – ment Work Product**	**Support Work Product**
1	Project	Development of RRS System	1. Feasibility Study	For Initial Estimates	162	
2			2. Functional Requirements	Documented Requirements	113	
3				Final - Scope Agreed	94	
4			6. Implementation	Production	119	
5	Application			MASTER End august 2000		115
6	Project	Enhanced Reporting Feb 98	2. Functional Requirements	Phase II Rpts	45	
7	Application			MASTER December 2000		131
8	Project	Add Security	6. Implementation	User Login and Password	22	
9	Application			MASTER End March 2001		150

Table 1 – Summary of Life Cycle Counts in the Example Database

Recommendations

The Introductory Tutorials are presented in a logical sequence in order to give you a clear understanding of the principal features of the WORKBENCH.

In order to gain the most benefit from the FUNCTION POINT WORKBENCH™ Tutorials,

Do each of the Introductory Tutorials in the order presented.

At all times, for further information, refer to the main text of the User Manual or use the Help option on the main menu bar or F1 for context sensitive Help.

Three Topics before You Start

Starting and Quitting the WORKBENCH
Copying a Database
Changing Directory

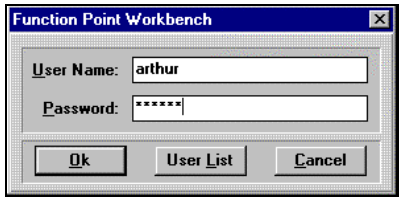
Starting and Quitting the FUNCTION POINT WORKBENCH™

To start FUNCTION POINT WORKBENCH™

1. From the **Start** menu, open the Program Folder labelled **Function Point WORKBENCH 5**.

2. Select the FUNCTION POINT WORKBENCH™ Example icon.

   The WORKBENCH starts and displays the login window.



   In the login dialogue box, you are able to select your name from the User List, then enter your password.

   When the password is successfully entered, the WORKBENCH displays the start up logo and main menu bar.

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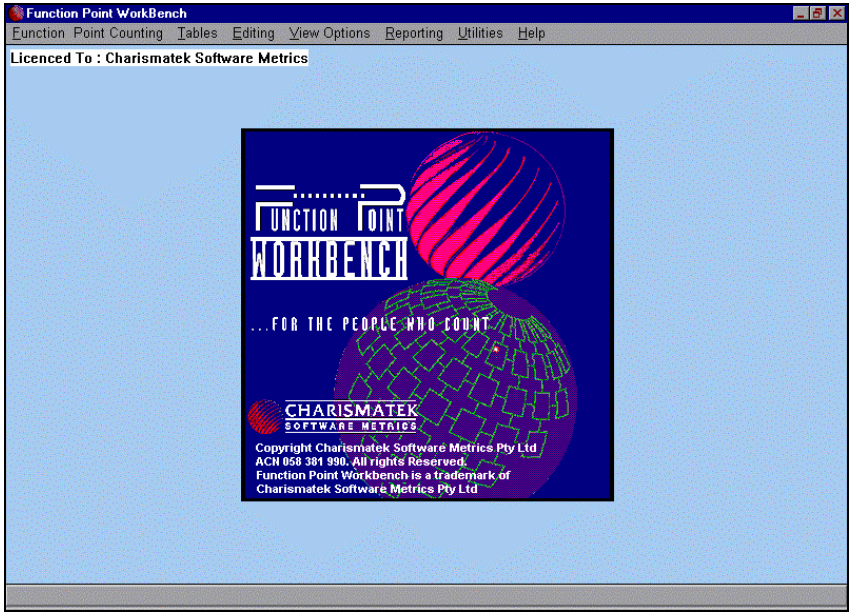
Function Point WorkBench
Function Point Counting Tables Editing View Options Reporting Utilities Help
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WORKBENCH
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*If you have any difficulties starting the WORKBENCH, please refer to **Trouble Shooting Installation Problems** in the Installation Guide.*

To quit the FUNCTION POINT WORKBENCH™

1. From the main menu, select **Function Point Counting**, then select **Exit.**

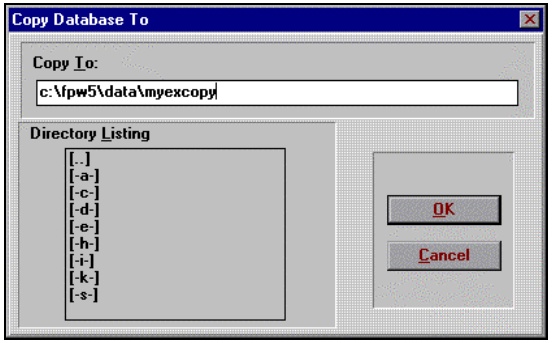
   Note that you do not have to Save or Close Counts. The WORKBENCH operates in a database environment in which all your entries are processed as they are entered and the database is always up to date.

To Copy a Database

Because you will be making changes to the Example database during these Tutorials, you will make your own copy before we start.

1. From the WORKBENCH main menu, select **Utilities**, then select **Copy Database To**.

   The Copy Database To directory dialogue box is displayed.



   Type the name of the directory where you want your own copy of the Example Database or select the directory from the ***Directory Listing*** *as described in steps 2. and 3. below.*

   Make sure you choose a directory where you will have full Read / Write / Create / Delete access rights.

2. Double-click on the **[..]** symbol to display the list of directories.

3. Select the required directory from the list.

4. Select **[OK]** to gain access to the directory.

5. If the directory is new, you will receive the following message.

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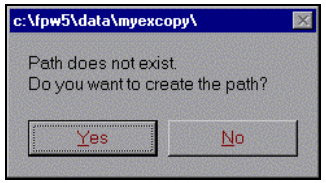


6. Select **Yes** to continue.

7. The following message will confirm that the database has been copied.

Follow the instructions under **To Change Directory**... to move to this directory with your copy of the example database.

To Change Directory in the FUNCTION POINT WORKBENCH™

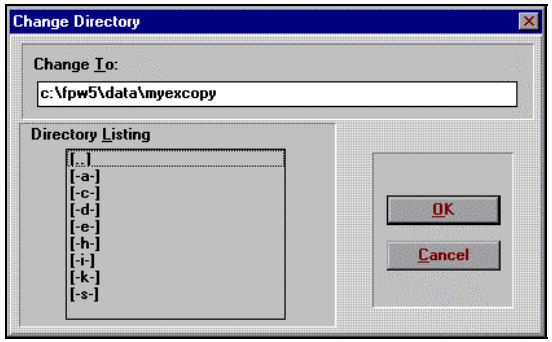
The FUNCTION POINT WORKBENCH™ stores its data in a database that you can use either as a standalone system on a single computer or as a multiuser system on a network.

You can set up any number of databases and change between these as you work.

The **Utilities** main menu option is used to select different count databases.

1. From the WORKBENCH main menu, select **Utilities**, then select **Change Directory**.

   The Change directory dialogue box is displayed.



   *Type the name of the directory where you have loaded the Example Database, or select the directory from the **Directory Listing**.*

2. Double-click on the **[..]** symbol to display the list of directories.

3. Select the required directory from the list.

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4. Select **[OK]** to gain access to the directory.

You are now ready to start.

2 METHODOLOGY

Introduction

This Chapter is recommended reading before you start the Tutorials.

Function Point Analysis is a technique used to size software. The technique focuses on the inherent functionality delivered by the software as understood and valued by the users of the software. The 'functional' size delivered by the technique is used in the analysis of the software, for estimating and for measurement.

The technique is applicable throughout the software life cycle.

The FUNCTION POINT WORKBENCH™ provides the Function Point Analyst with functionality to:

- record functional sizing data in accordance with the IFPUG counting practices - Release 2.0 to 4.1 - for
  - Logical Transactions
  - Logical Files
  - Value Adjustment Factor
- record relationships between Logical Transactions and Logical Files
- record additional documentation about the count:
  - description, purpose and context of the count
  - notes, cross-references and comments against specific counted items

- assign user-defined attributes (Labels) to Transactions so that Subsets of the count can be selected and sized for further Count Analysis.

There are two principal steps in a Function Point count:

- The first step, *which is the key step*, is the identification of the functionality (to be) delivered i.e. the recognition of each of the functional components of the software.

- The second step is the assessment of each functional component in terms of Function Points and the determination of the Value Adjustment Factor.

In support of this first step, the FUNCTION POINT WORKBENCH™ builds a functional model of the software. The model is, in effect, an expression of the software requirements or software product definition. It summarises the software functionality. This model by itself is a valuable tool for communication between players in the User domain and the IT professionals.

The Functional Model of the software provides an infrastructure for the Function Point sizing - the second step.

The benefits of this approach are:
- The model provides a framework for the count.
- The development of the model lends rigour and discipline to the technique
- The model allows the method to be auditable, open and transparent
- The model provides support for further analysis of the software size
- The model is easily maintainable as the software changes.

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The FUNCTION POINT WORKBENCH™, in addition, provides a *structured method* for performing the count.

This chapter provides:

- *an overview of the functional model, its role in Function Point Analysis and its use in the FUNCTION POINT WORKBENCH™*
- *a guide to the structured method embedded in the WORKBENCH for performing the count.*

The Components of the Functional Model

The functional model represents the software system as a user of the software would perceive it. It is essentially an external view of the software and shows the functionality provided by the software to its users or clients.

The same view of the software is shared by Users, Clients, Business Analysts, Acceptance Testers, User Documentation Writers and Trainers.

Note: The term '*user*' includes all people and all software applications which interact with the software in a manner formally prescribed by the software.

The model consists of:

1. *Logical Transactions*
2. *Logical Files*
3. *Relationships between the Logical Transactions*
4. *Relationships between the Logical Transactions and the Logical Files*
5. *Capability of Indicating Scope of Enhancement Project*
6. *Transaction Attributes for Selecting Software Subsets.*

Each of these components is described below.

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A Logical Transaction

- Is one of the software components allocated Function Points in Function Point Analysis.

- Represents a user's interaction with the software system. It is what a user perceives as a 'unit of work' or 'task' and is considered by the user to be complete when it has achieved its ‘business’ goal.

- Is visible or known to the User. It is usually manifested to its users by an interaction across the Application Boundary.

- Is initiated by a definable external stimulus, in its physical implementation, The stimulus can operate by:
  - direct user interaction e.g. keyboard or mouse action
  - indirectly e.g. batch job schedule, system date/time change, completion or outcome of another transaction.

- Is considered to be unique when the set of business rules which define it are unique. The rules include, for example, specification of:
  - operations to be performed
  - data to be used
  - the format (i.e. data elements / arrangement / order) of its external manifestation
  - sequence of operations
  - any methods (e.g. algorithms) and logical operations used to select or transform data
  - validity checks
  - responses to abnormal situations.

- Should be described in language understood by its user.

- Allows its user to either:

  – input data or control information which changes or causes changes to data stored within the system e.g.

    - *Record Case Event*
    - *Add Case Participant*
    - *Assign Case Officer*
    - *Change Plea Type*
    - *Delete Case Status Code*
    - *Split a Case*
    - *Archive Completed Case*

  or

  – retrieve data stored within the system or send control information or message to the User e.g.

    - *Enquire Case Event Detail*
    - *Report Backlogged Cases*
    - *Statistical Analysis of Case Outcomes*
    - *Print Fee Scale*
    - *Generate / Send Transactions to GL*
    - *Notify Alert Situation.*

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A Logical File

- Is one of the software components allocated Function Points in Function Point Analysis.

- Represents a set of data elements stored as a **group** which a user of the system understands or recognises as a **logical 'real world' group.** The groups of data as used by the Logical Transactions to store or change data or retrieve data directly are the best indication of what data groupings constitute the Logical Files

- Should be described in language understood by its user e.g.

  - *Case Events*
  - *Case Participants*
  - *Case Status Codes.*

Relationships between the Logical Transactions

- The logical Transactions are recorded in a functional hierarchy which serves to record the Logical Transactions in a structure where the groupings provide additional information about the relationships between transactions.

- The Logical Transactions are at the lowest level of the hierarchy. There are a number of different approaches to grouping Transactions. For example, the Transactions can be grouped according to the principal Logical File accessed and can be ordered to give a life-cycle analysis of data usage, e.g.

    - *Record Case Events*
    - *Modify Case Event Record*
    - *Delete Case Event*
    - *Browse Case Events*
    - *Display Case Event Details*
    - *Hard-Copy Report Case Events for Active Cases*

- Entries at the highest levels of the hierarchy reflect the software's logical sub-systems.

- Intermediate levels reflect each sub-system's principal activities and provide documentation about the context of each logical transaction.

See also Appendix B in the User Manual for further assistance on this topic.

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Relationships between the Logical Transactions and the Logical Files

Each Logical Transaction uses data stored in Logical Files in order to achieve its goal. The Logical Files accessed by each Transaction are recorded in the software model as linked to that Transaction. This link also records whether the Transaction reads or updates the File.

The linking of Files to Transactions is an optional activity when building the Functional Model in the FUNCTION POINT WORKBENCH™.

Where this information is stored in the software model, it is used by the FUNCTION POINT WORKBENCH™ to determine the Function Type of each Logical File:

- If any Logical Transaction updates the Logical File, then the Logical File is an *Internal Logical File*.
- If no Logical Transaction updates the Logical File, then the Logical File is an *External Interface File*.

It is also used by the Function Point Analyst to assess the completeness of the model. For example, when performing a Function Point count based on Requirements or the outcome of a JAD session, it is relatively common to find that there are Files referenced by Transactions but for which no or insufficient maintenance functionality has been provided.

For example, the File - *Case Status Code* is known to be maintained by this software. However, the model does not indicate any associated Maintenance Transactions.

File Name	**Access**
Case Status Codes	Read
Case Events	Update

Outlining the Impact of an Enhancement Project

A project is a set of activities which delivers software to its users as an Application.

- A Development Project delivers a new application. Its scope, for the most part, corresponds to the transactions in the initial software model of the Development Project.

- An Enhancement Project changes the functionality in an existing application.

  The scope of the Enhancement is defined in the Functional Model by:

- extending the model to include new 'added' functionality and flagging this functionality as 'added'

- flagging existing functionality, where appropriate, as 'changed' or 'deleted'.

This 'flagged' functionality can then be assessed, viewed and sized as a subset of the model.

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Transaction Attributes for Selecting Software Sub-Sets

Attributes can be assigned to Logical Transactions in the model so that the Transactions can be selected in groups for reporting on software subsets as well as analysing the total software system.

The attributes defined for each model will depend upon the purpose of the software analysis. Some examples are supplied in the table below. Extensive discussion of this topic is included in Chapter **8 - USING LABELS TO ANALYZE COUNTS.**

ATTRIBUTE	**OPTIONS** *(i.e. Possible Values)*
Business Purpose	*Direct Business , Infrastructure*
Platform	*VAX, PC (DOS), PC (OS/2)*
Language	*C++,COBOL*
Priority in Release	*Essential, Desirable, Optional*
Due in Release	*Release 1.0, Release 2.0*

Reporting the Functional Model

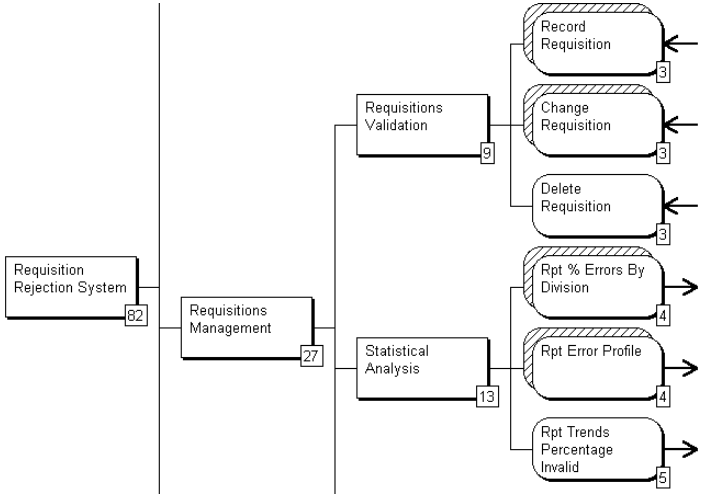
The functional model is displayed on-line and reported in hard-copy as a functional hierarchy which shows the Logical Transactions in context and their relationships to other Transactions.

The chapter **11 - REPORTING** in the User Manual describes all the reporting available, with sample reports included in Appendix A.

- The hierarchy is expressed in either graphic (**Hierarchy Diagram**) or text outline (**Hierarchy Outline List**) format.

- The hierarchy can be reported:
  - as a whole
  - partially by selecting a branch.

- Selected transactions can be highlighted in the hierarchy by selecting a set of transactions with a particular transaction attribute *i.e. select all Transactions which are to be delivered in Phase 1.*



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In addition to the hierarchy reports, for each hierarchy partition, the model is reported as:

- a list of the Logical Transactions and their associated Logical Files (**Transaction and File List**)

- a detailed report for each Logical Transaction showing its relationships with the Logical Files (**Transaction Details)**.

- a detailed report for each Logical File showing its relationships with the Logical Transactions (**File Details)**.

Extending the Functional Model to Support Function Point Sizing

In Function Point Analysis, each Logical Transaction and each Logical File is assigned a Function Point score according to the rules prescribed by the International Function Point User Group (IFPUG) Counting Practices Manual.

- Each Logical Transaction is assigned a score according to assessed type *(External Input, External Output, External Inquiry)* and complexity *(Low, Average, High)*. The complexity is determined objectively according to the prescribed rules and is based on the Data Elements and Logical Files accessed.

- Each Logical File is assigned a score according to assessed type *(Internal Logical File, External Interface File)* and complexity *(Low, Average, High)*. The complexity is determined objectively according to the prescribed rules and is based on the Data Elements and Record Types in the File.

In addition, the general complexity of the software is accessed according to the rules for determining the Value Adjustment Factor.

In the FUNCTION POINT WORKBENCH™, the functional model is extended to include the Function Point scores:

- The Function Point score for each Logical Transaction and each Logical File is assessed and recorded
- The Value Adjustment Factor is assessed and recorded.

The scores for the individual Transactions and Files are aggregated and adjusted by the Value Adjustment Factor to provide the overall Function Point Size.

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Reporting the Function Point Size

The functional model, as developed in the FUNCTION POINT WORKBENCH™, supports both the Function Point sizing of the entire software as represented by the model and Function Point sizing of selected software subsets.

The Function Point size for both the entire model and the selected subset can be reported at:

- **Summary Level**

  The total Function Point Size broken down by Function Type and Complexity (**Function Point Summary)**.

- **Intermediate Detail**

  A listing showing, for each Logical Transaction and each Logical File, its Function Type and Complexity **(Transaction and File List)**.

- **Detail**

  A 1-2 page detailed report for each Logical Transaction and each Logical File **(Transaction Details** and **File Details)**.

- **On the Hierarchy Diagram**

  The Function Point size can also be reported directly against any position in the Hierarchy model (**Hierarchy Diagram**).

Selection of Software Subset by Hierarchy Branch

The FUNCTION POINT WORKBENCH™ supports automatic calculation of the functional size of a count subset as defined by the transactions belonging to a branch of the transaction hierarchy.

This type of Function Point size is used to compare the size of, for example, the software's sub-systems.

Selection of Software Subset by Transaction Attributes

The FUNCTION POINT WORKBENCH™ supports automatic calculation of the functional size of a count subset as defined by a particular Transaction attribute.

This type of Function Point size is used to analyse the functional size by the Transaction attribute values, e.g. **PRIORITY OF FUNCTION FOR DELIVERY** - *Essential, Desirable, Optional.*

The Function Size reports can be exported into other display systems, say Excel, for graphical presentation.

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3 TUTORIAL 1: Examining a Function Point Count for a Development Project

Introduction and Overview

This Tutorial is your starting point for the FUNCTION POINT WORKBENCH™. Here you can work systematically through the operations and features of the WORKBENCH.

After completing Tutorial 1, you may choose to move on to Tutorial 2 or to explore the features of the WORKBENCH using this Tutorial as a guide.

This Tutorial introduces the features of the FUNCTION POINT WORKBENCH™ within the context of an existing Function Point Count.

Before doing this Tutorial, you are strongly advised to read, as background, Chapter 2 - METHODOLOGY.

For this Tutorial Exercise you will open a Function Point Count with the following four-part name:

Requisition Rejection System
Development of RRS
2. Functional Requirements
Documented Requirements

This count is for a Development Project for the **Requisition Rejection System.** The project is called **Development of RRS**. The Project Life Cycle Phase is at **Functional Requirements**. The Scenario Name is **Documented Requirements.**

Topics in this Tutorial

- Opening an Existing Function Point Count
- Displaying the Function Point Size
- Classifying a Logical Transaction
- Recording Logical Files
- Classifying Logical Files
- Linking Logical Files to a Transaction
- Entering the Value Adjustment Factor
- Viewing the Count Description
- Attaching Documentary Notes
- Assigning Label / Options (User Defined Attributes) to a Transaction
- Using Labels in Count Views
- Printing Reports

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Opening an Existing Function Point Count

This Tutorial Exercise will explore the features of the WORKBENCH as applied to a **Development Project Count**.

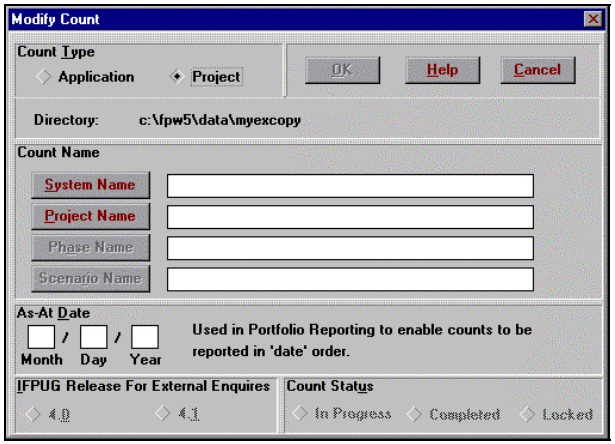
To open the Function Point Count

1. If necessary, start FUNCTION POINT WORKBENCH™, enter your password, and select the directory where you have loaded your copy of the **Example** database.

   The WORKBENCH logo and main menu bar are displayed. From here you are able to use all the Function Point counting and analysis features.

2. From the main menu, select **Function Point Counting**, then select **Modify Count**.

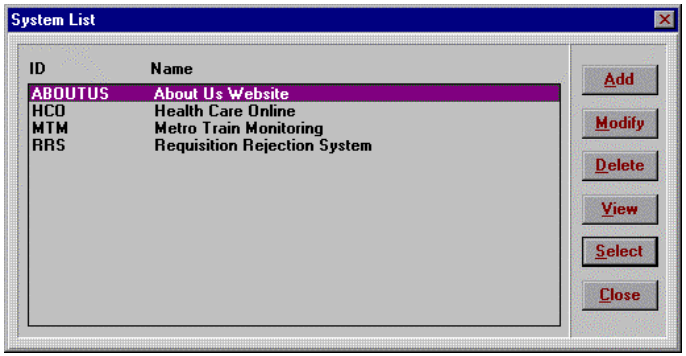
   *The WORKBENCH displays the **Modify Count** dialogue box. From here you choose the Count you wish to modify. You will use **each** of the **Count Name** buttons to select the **full name** of the count.*



3. For this Tutorial Exercise, as you are examining the count for a Development Project, select the **Project** radio button as the Count Type.

4. Select the **System Name** button.

   *The WORKBENCH displays the **System List** dialogue box.*



   *This dialogue box lists the Names of the **Systems** with counts stored within the current database*

5. In the **System List**, select **RRS** System by double-clicking. Alternatively, highlight ***RRS*** by clicking once, then click the **Select** button.

> *Throughout the WORKBENCH, single list entries can be selected using either of these methods. For lists which support multiple entry selection, you will use the **Select** button.*

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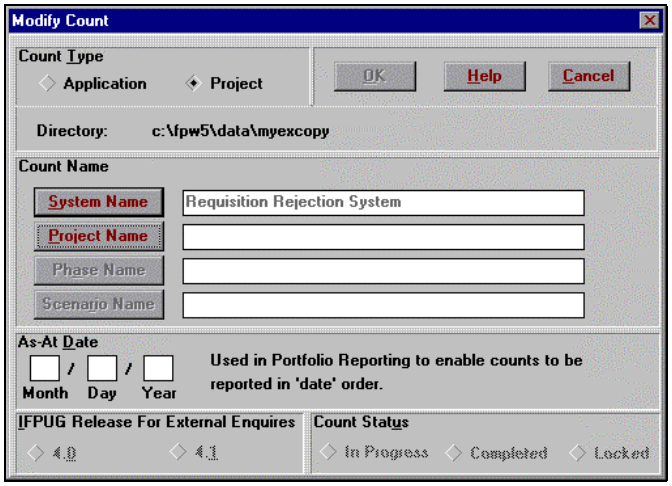
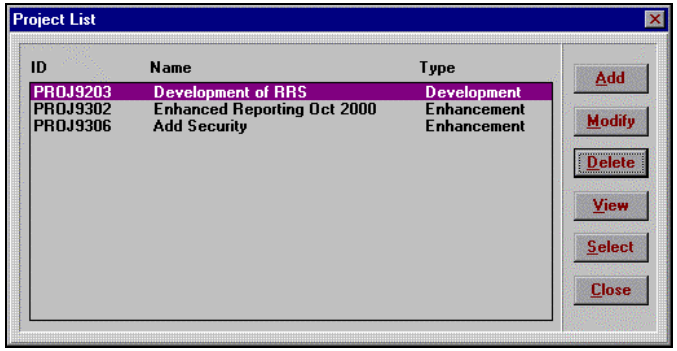


*The **RRS** System Name is entered in the **Modify Count** dialogue box. The **Project Name** and **Phase-Scenario Name** will also be required in order to complete the name of the count.*

6. In the **Modify Count** dialogue box, select the **Project Name** button.

   The Project List dialogue box is displayed.



*This dialogue box shows a list of **Projects** stored for the current System.*

7. For this Tutorial Exercise, select the Project **Development of RRS**.

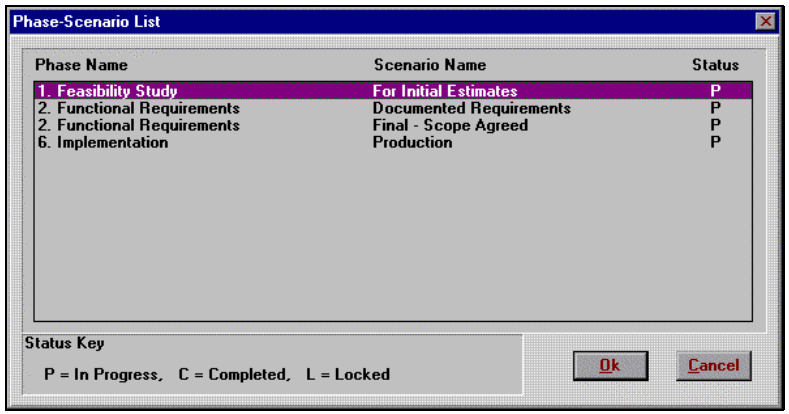
   *The selected **Project Name** is entered in the **Modify Count** dialogue box.*

8. From the **Modify Count** dialogue box, select the **Scenario** button.

   *The **Phase-Scenario List** dialogue box is displayed. This lists shows all the counts stored for this Project for this System.*

   *From here you choose the **Count** you wish to modify.*

   Note:
   - *counts have been done during three Project **Phases** - Feasibility Study, Functional Requirements and Implementation*
   - *two counts were performed during the Functional Requirements Phase. The **Scenario** Name is used to distinguish between them.*



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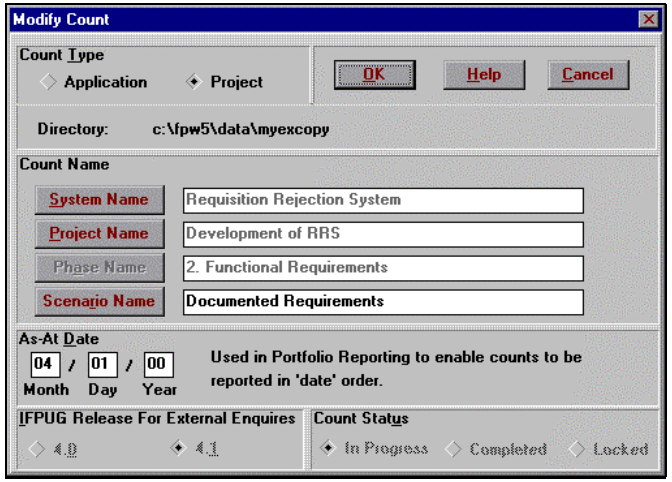
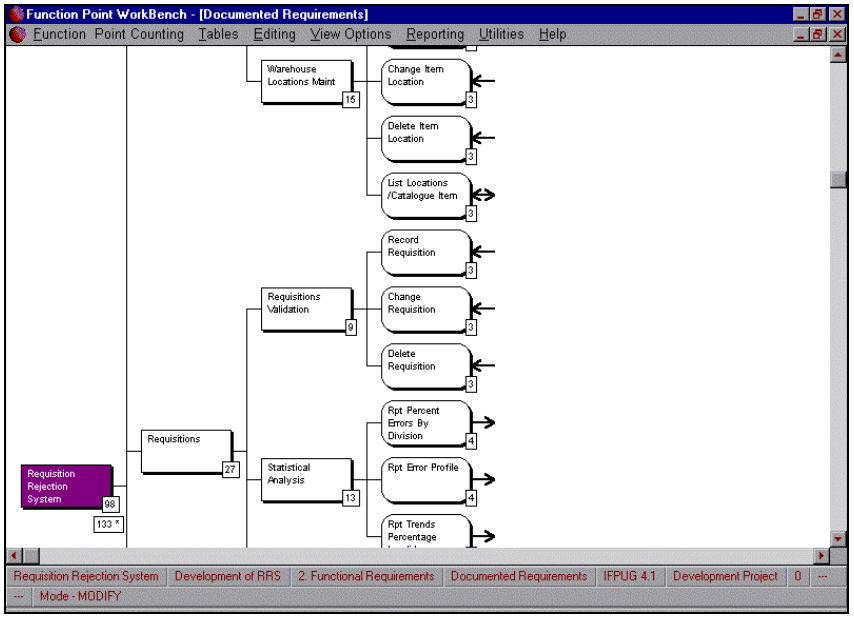
9. In the **Scenario List**, select the Scenario **Documented Requirements**.

   *The full name of the count is displayed in the **Modify Count** dialogue box.*



10. When the name is complete, select the **Ok** button.

The functional hierarchy representing the count's Logical Transactions is loaded into the Count Window.



*(Note: If your display does not look like this, see **To explode the functional hierarchy** at the end of this section).*

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The hierarchy consists of two types of nodes:

- *The rounded boxes represent the Logical Transactions which are one of the Function Types 'counted' in Function Point Analysis.*
  - *The number in the bottom left hand corner indicates the number of Unadjusted Function Points assigned to the Logical Transaction.*
  - *The 'arrow' symbol indicates the Transaction Function Type.*
    External Input
    External Output
    External Inquiry

- *The rectangular boxes are called Components and are used to group Transactions into a structure which helps to express the relationships between the Logical Transactions.*
  - *The number in the bottom left hand corner indicates the number of Unadjusted Function Points accumulated for its child Logical Transactions.*

Notice that:

- ***Record Requisition** is an **External Input** with **3** Function Points assigned*
- ***Rpt Percent Errors by Division** is an **External Output** with **4** Function Points assigned*
- ***List Locations /Catalogue Item** is an **External Inquiry** with **3** Function Points assigned*
- *The accumulated value for the Logical Transactions under the Component node **Requisition** is **27** Unadjusted Function Points.*

The functional hierarchy represents:

- *The application in terms of the functionality expressed through its Transactions, and*
- *The logical structure of the software as Transactions within component groups.*

Notice also that:

- *the* ***Root Node*** *is highlighted*
- *the* ***Status Bar*** *is displayed at the bottom of the screen. The Status Bar indicates the name of the count, the type of count, the IFPUG Counting Release (in this case, 4.1), the Level No of the highlighted Node (in this case, 0) and the fact that the count is open in* ***Modify*** *mode.*

11. Use the Keyboard Arrow keys to move between the Nodes and note how the Level No changes.

12. From the main menu, select **Function Point Counting,** then / **View/Modify Toggle** to 'toggle' the Mode between View and Modify. Under View, you can look at a count but cannot change any data. Make sure that you leave this exercise in Modify mode.

    From here you are able to use all features of the WORKBENCH to modify, analyse and report on the count.

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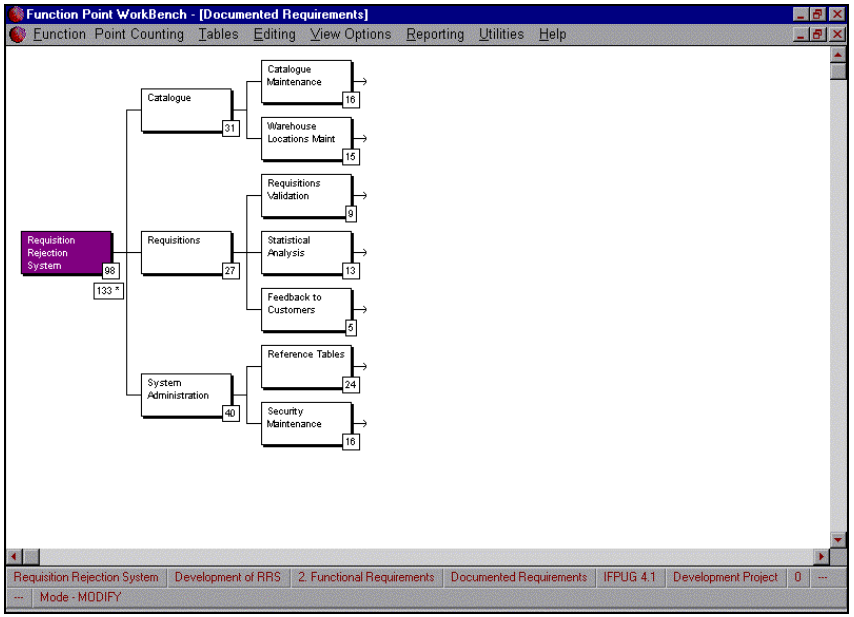
To explode the functional hierarchy

When you open a Function Point Count, the hierarchy ***may be imploded*** as shown below.

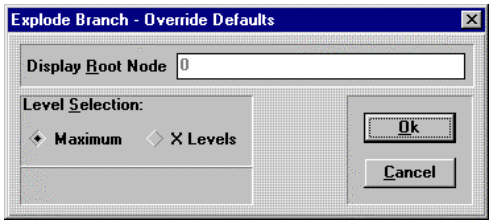


The 'narrow' arrows on the component nodes indicate <u>imploded</u> branches.

1. First highlight the Root Node.

2. From the main menu select View Options, then select Explode Branch - Override Defaults.

*The **Explode Branch - Override Defaults** dialogue box is displayed.*



3. Select **Maximum**, then select **Ok** to ***explode*** the hierarchy.

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Displaying the Function Point Size

The **Unadjusted Function Point Size**, **Value Adjustment Factor**, **and Adjusted Function Point Size** are available at any time while a Count is open. Function Point Sizes can be evaluated for the whole application, or for individual components or logical transactions. The WORKBENCH main menu **Reporting** option provides a simple way to display Function Point Counts.

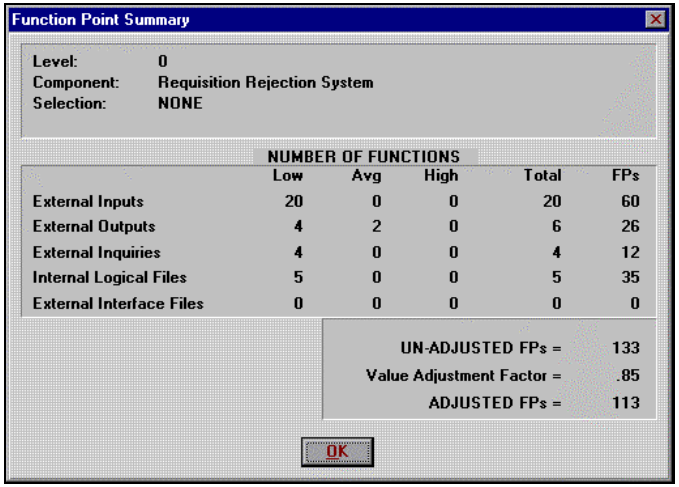
To display the Function Point Size of the whole Count

1. In the WORKBENCH hierarchy for the **[Documented Requirements]** count, highlight the **Root Node** component.

   *Reports and Function Point Counts in the WORKBENCH are produced **in relation to** the highlighted node.*

2. Select the **Reporting** main menu option and **Display Summary - with Files...**.

   *The **Summary Report** is displayed and shows a breakdown of the Function Point Count for the Project.*


Function Point Summary
Level: 0
Component: Requisition Rejection System
Selection: NONE
NUMBER OF FUNCTIONS
Low Avg High Total FPs
External Inputs 20 0 0 20 60
External Outputs 4 2 0 6 26
External Inquiries 4 0 0 4 12
Internal Logical Files 5 0 0 5 35
External Interface Files 0 0 0 0 0
UN-ADJUSTED FPs = 133
Value Adjustment Factor = .85
ADJUSTED FPs = 113
OK

Select **Ok** to return to the hierarchy.

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To display the size of a Count View

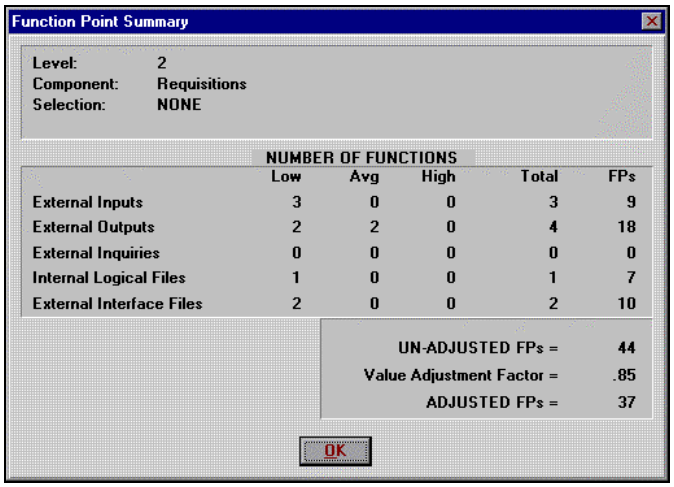
> ***A Count View is a subset of a Count selected for Reporting***.

There are different ways of selecting a Count View. In this exercise, the Count View is to be defined by selecting a Component as the Count View 'root node'. The hierarchy is 'viewed' as if the selected Component is the 'root node' of the hierarchy and the rest of the hierarchy does not exist. This gives us an easy method of sizing, for example, sub-systems of an application.

1 For this Tutorial Exercise, highlight the node called **Requisitions**.

*When highlighted, **this node** (component) and its child nodes and transactions, are used in subsequent Reports.*

2 From the main menu, select **Reporting**, then select **Display Summary - with Files...**


Function Point Summary
Level: 2
Component: Requisitions
Selection: NONE
NUMBER OF FUNCTIONS
Low Avg High Total FPs
External Inputs 3 0 0 3 9
External Outputs 2 2 0 4 18
External Inquiries 0 0 0 0 0
Internal Logical Files 1 0 0 1 7
External Interface Files 2 0 0 2 10
UN-ADJUSTED FPs = 44
Value Adjustment Factor = .85
ADJUSTED FPs = 37
OK

*The **Summary Report** is displayed showing a breakdown of the Function Point Count for the chosen Component.*

*Notice in this example that the **Component Name** is displayed at the top of the report. The details within this report, refer only to the transactions within the **Requisitions** Component. In this example therefore, the **Requisitions** component has an **Adjusted Function Point Size of 37 FPs**.*

3. Select **Ok** to return to the hierarchy.

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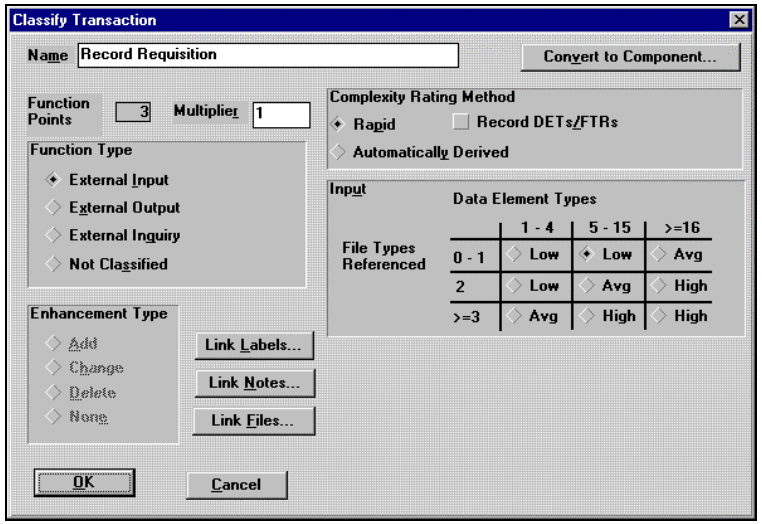
Classifying a Logical Transaction

1. For this Tutorial Exercise, select the **Record Requisition** transaction by double-clicking or by highlighting the Transaction and pressing **Enter.** Alternatively, click once to highlight that transaction, then from the main menu select **Editing**, then select **Modify**.

   The Classify Transaction dialogue box is displayed.



   *In this dialogue box you see that the **Record Requisition** transaction:*

   - *Is classified as an **External Input** with a **Low Complexity** rating*
   - *Has a **Function Point Size** of 3 FPs.*

   Change the **Function Type** and note how different Complexity Matrices are displayed and that the **Function Points** value changes for different Function Type selections.

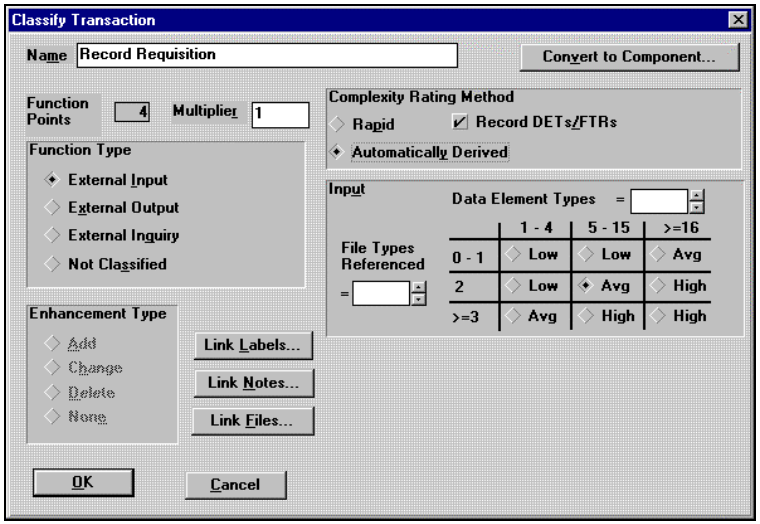
2. Note under **Complexity Rating Method**, the choice of -
   - ◊ **Rapid**
   - ◊ **Automatically Derived**

***Rapid**, as the name implies, is the quicker method for rating complexity. With this method, you select the appropriate complexity rating directly from the matrix.*

Change the **Complexity** by selecting different positions in the Complexity Matrices and note how the **Function Points** value changes.

***Automatically Derived** allows you to record the actual number of Data Element Types (DETs) and File Types Referenced (FTRs) and then uses these values to automatically select the appropriate position in the complexity matrix.*

Select **Automatically Derived** and note the addition of boxes for recording the **Data Element Types** (DETs) and **File Types Referenced** (FTRs).



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Enter values in these boxes and observe the Automatic positioning in the Complexity Matrix depending on the values entered.

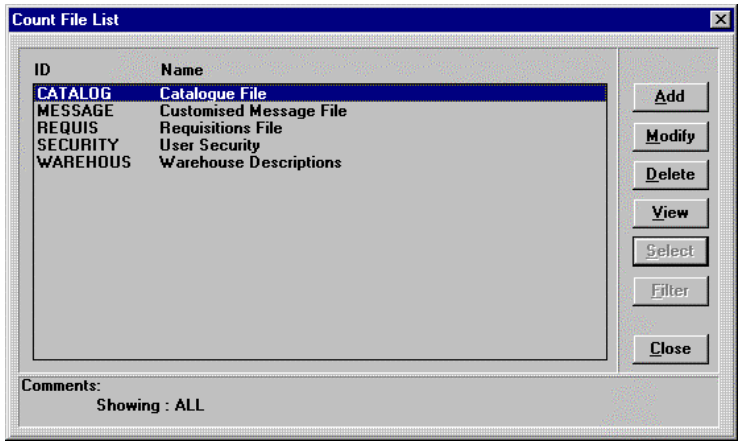
*If you choose **Rapid**, you can also choose to record the number of Data Elements and / or File Types Referenced as documentation about your Transaction by selecting ☑ Record DETs/ FTRs.*

Select **Ok** or **Cancel** to return to the hierarchy.

Recording Logical Files

1. From the main menu, select **Function Point Counting**, then select **Count Files**.

   The Count File List is displayed.



   This list shows the names of logical files which are used by the transactions in the count and therefore contribute their size to the count.

   Logical files may be added to the current count using this ***Count Files*** *dialogue box.*

2. Next, in the **Count File List** dialogue box, select **Add**.

   The System File List is displayed, showing the names of the files used in all of the counts associated with the System over its lifetime. This is the 'master' file list for this System.

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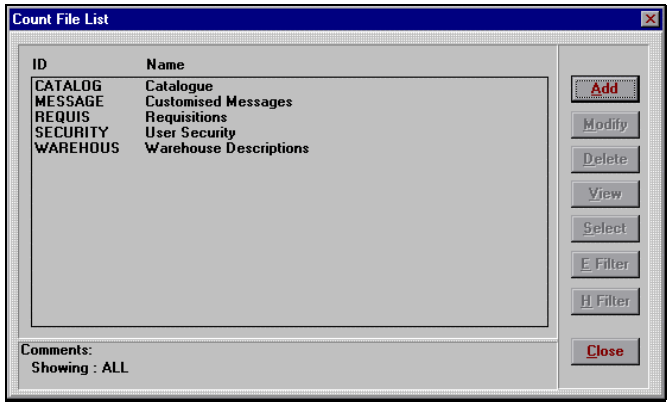


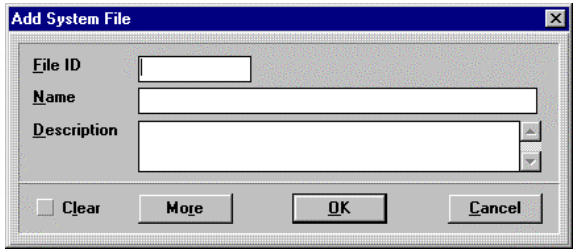
This list of files is available to any count recorded under the current System Name.

From here, you are able to select Add, Modify, Delete, or View files in the ***System List****.*

The **Select** *button is used to enter the highlighted files in the* ***Count File List****.*

3. In the **System File List** dialogue box, select **Add**.

The Add System File dialogue box is displayed.



This dialogue is used to enter information about a new logical file. Note that 'count' data is not recorded at this level because count data may change over the lifetime of the application.

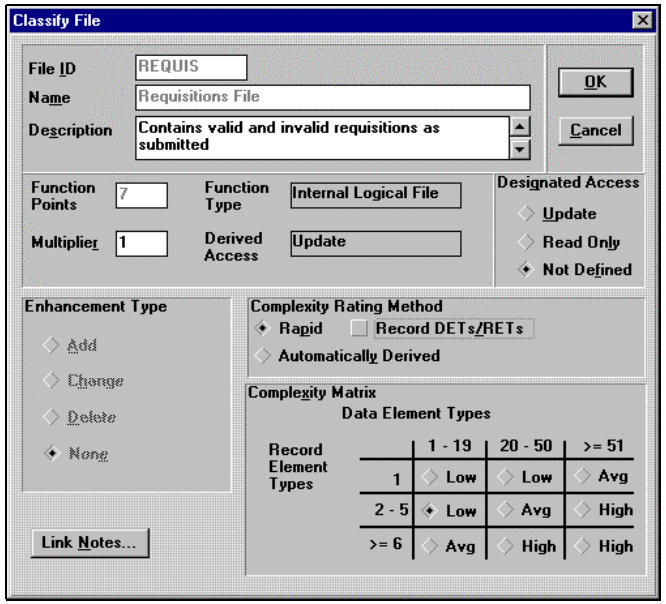
*When you select **Ok**, the new file is added to the **System File List**.*

4. For this Tutorial Exercise you will *not* add or select any new files. Select **Cancel** to return to the **System File List** dialogue box.

5. In the **System File List** dialogue box, select **Close** to return to the **Count File List.**

6. In the **Count File List** dialogue box, highlight the **Requisitions File** and select **Modify**.

The Classify File dialogue box is displayed.



*Here you can see the file **Function Type** and **Complexity Matrix.***

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Note under ***Complexity Rating Method****, the choice of –*

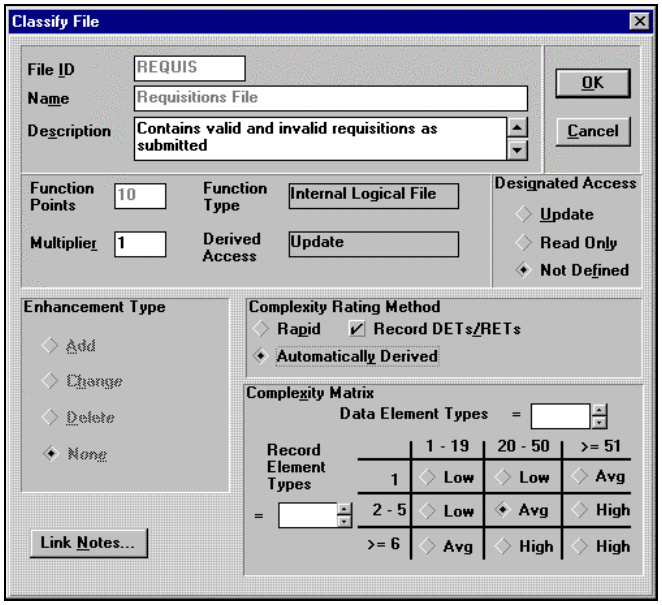
- ◊ **Rapid**
- ◊ **Automatically Derived.**

Rapid*, as for Logical Transactions, is the quicker method for rating complexity. With this method, you select the appropriate complexity rating directly from the matrix.*

7. Change the **Complexity** by selecting different positions in the Complexity Matrix and note how the **Function Points** value changes.

Automatically Derived *allows you to record the actual number of Data Element Types (DETs) and Record Element Types (RETs) and then uses these values to automatically select the appropriate position in the complexity matrix.*

8. Select **Automatically Derived** and note the addition of boxes for recording the **Data Element Types** (DETs) and **Record Element Types** (RETs).



Enter values in these boxes and observe the Automatic positioning in the Complexity Matrix depending on the values entered.

*If you choose **Rapid**, you can also choose to record the number of Data Elements and / or Record Element Types as documentation about your File by selecting ☑ Record DETs/ RETs.*

*Note that you cannot change the **Function Type**. In our next topic, we shall see how the WORKBENCH 'derives' the Function Type for other data provided in the count.*

9. Select **Ok** to return to the **Count File List** and **Close** to return to the Hierarchy display.

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Classifying Logical Files

The FUNCTION POINT WORKBENCH™ lets you build a logical model of your system. You can record data about how files are used (read or updated) by any Transaction or Component in your hierarchy.

Typically, you will record this data about File Usage *either* at the Transaction level *or* for the count as a whole. The method you choose will depend upon the data available to you and the purpose of your count. In the count we are examining in this Tutorial, Files have been linked to the Logical Transactions.

The WORKBENCH accumulates information about file usage up the hierarchy to higher level components to determine the **Derived Access Type.** The Derived Access Type is then used to determine the **Data Function Type.**

The accumulated information for the count as a whole is summarised in the Classify File dialogue for each File.

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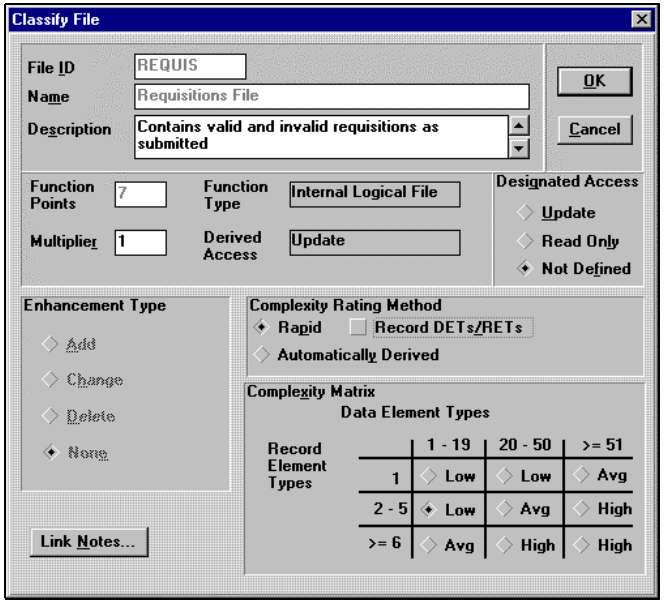

Derived Access *is 'derived' by examining all the Access Types designated for the File in 'links' to children components and transactions as well as the Access Type Designated specifically in this dialogue.*

Designated Access *in the* ***File*** *dialogue can be used to indicate how the count as a whole uses the File.*

In this example:

- ***Designated Access*** *is* ***Not Defined*** *because the File usage is being indicated at the Transaction level. This means that the usage of this File for the count as a whole does not need to be and has not been nominated and therefore does not contribute to the Derived Access Type.*
- ***Derived Access Type*** *of* ***'Update'*** *shows that at least one child transaction has indicated that it updates the File. This implies that the Application maintains the file and so it is classified as an* ***Internal Logical File****.*

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Other possible values for Derived Access Type are:

- ***'Read'*** *which would indicate that at least one child (component or) transaction has designated an access type of* ***'Read'*** *but none have designated an access type of* ***'Update'****. This implies that the file must be maintained outside the system and is therefore an* ***External Interface File****.*

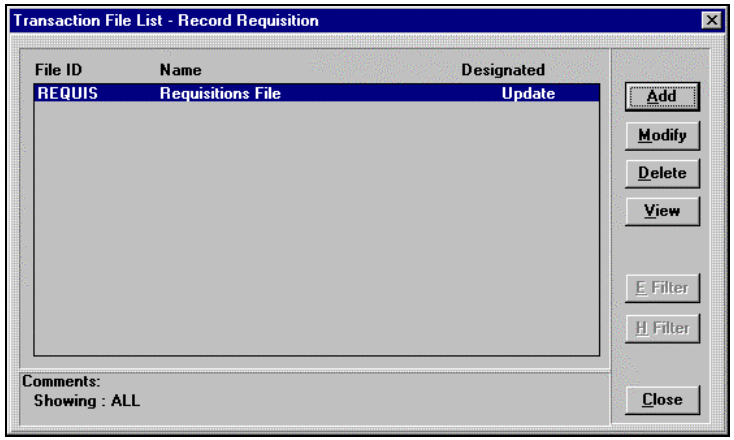
- *Null entry which would indicate that the File has not been associated with any Transactions. This may mean that the Transaction Hierarchy is incomplete, i.e. either the Transactions which use the File have not been included or that the association Transaction - File link is missing.*

Linking Logical Files to a Transaction

To see the logical files linked to a transaction

1. For this Tutorial Exercise, select the **Record Requisition** transaction. Then in the **Classify Transaction** dialogue box, select the **Link Files** button.

   *The **Transaction File List** dialogue box is displayed. This shows the files which are used by this transaction.*



   *In this example, the Transaction File List shows that the **Record Requisition** transaction updates the **Requisitions File**. From here, you can maintain the Transaction File List by Adding or Deleting files used by the transaction.*

   *The **Modify** button is used to toggle the **Designated Access** to **Update** or **Read** in order to specify **the way in which the file is accessed** by the transaction. As we saw in the previous topic, this information is used in classifying the File into its Data Function Type.*

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To link a logical file to a transaction

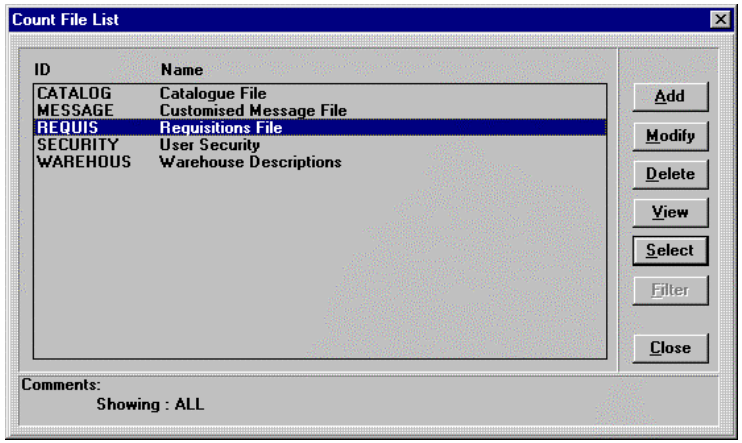
You can link Files to a Transaction:

- directly, by entering each Transaction and attaching the Files and
- globally, from a component, by assigning a File or group of Files to Transaction children.

In this Tutorial Exercise, we see how to link Files directly.

1. For this Tutorial Exercise, select **Add** in the **Transaction File List** dialogue box.

   *The **Count File List** is displayed, showing the logical files used by the count.*

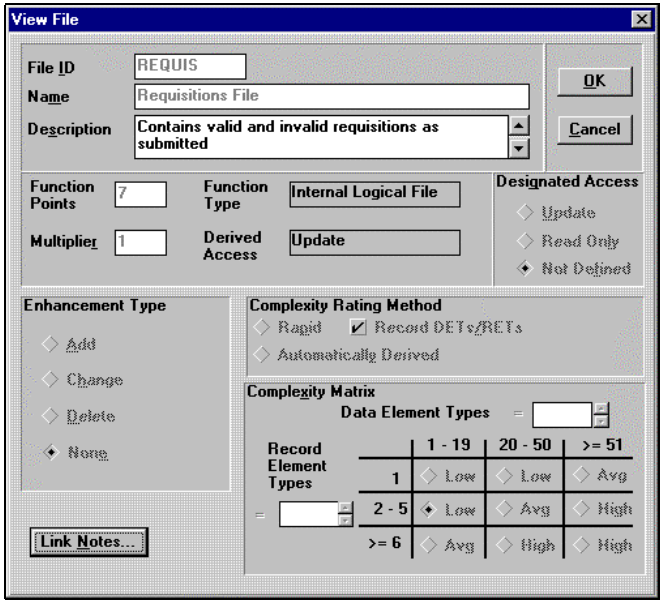


   *The **Select** button is used to enter highlighted files into the **Transaction File List**.*

2. Select **Close** to return to the **Transaction File List** dialogue box.

3. Next, in the **Transaction File List** dialogue box highlight the **Requisitions** file then select **View**.

   The Classify File dialogue box is displayed.



4. Finally for this Exercise, select **Cancel** to return to the **Transaction File List**.

5. Select **Cancel** in the **Classify Transaction** dialogue box, to return to the functional hierarchy. Alternatively, select **Ok** if you wish to save any changes you may have made.

6. Still positioned on the node **Record Requisition**, press the keyboard '**F**' key and note that the **Transaction File List** immediately opens. This is a keyboard 'fastpath' to the Transaction File List. Select **Close** to return to the hierarchy.

7. **Help / Mouse and Keyboard Shortcuts** summarises the WORKBENCH™ shortcuts.

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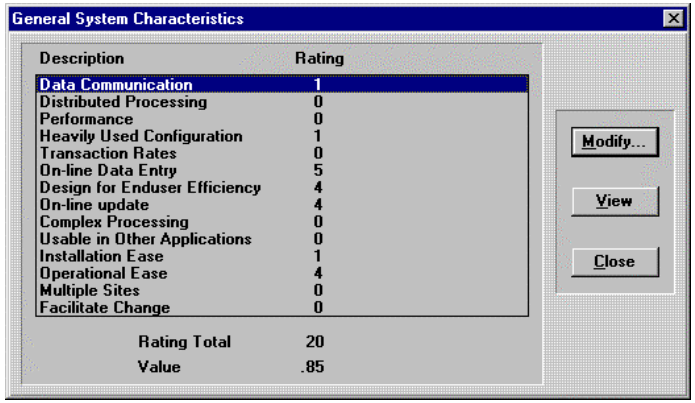
Entering the Value Adjustment Factor

To view the General System Characteristics

1. From the main menu, select **Function Point Count**, then select **Value Adjustment Factor**.

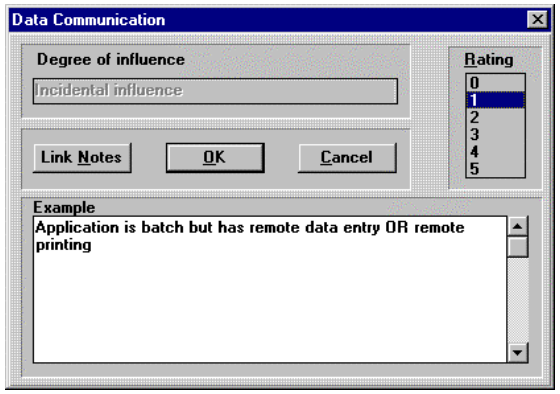
   The General System Characteristics dialogue box is displayed.



   *You can see that each **GSC** is individually listed and can be **Viewed** or **Modified**.*

2. In the **General System Characteristics** dialogue box, highlight the **Data Communications GSC**, then select **Modify**.

   The Data Communications dialogue box is displayed.



*The **Rating**, the **Degree of Influence**, and an **Example** of that Degree of Influence are clearly displayed.*

*The **Link Notes** option exists to allow you to link documentary notes to the current Characteristic Rating. Notes are explained in a later in this topic.*

3. As an exercise, select a different ***Rating*** to the one highlighted.

   *The **Degree of Influence** and its **IFPUG Example** **change** to reflect the different Rating chosen.*

4. Select **Link Notes**.

   *You see a **Note** is used to clarify the **General System Characteristic** selected.*

5. For this Tutorial Exercise, select **Close** to return to the **Data Communications** GSC, then select **Cancel** to return to the **General System Characteristics** dialogue box.

6. Finally select **Close** to return to the functional hierarchy.

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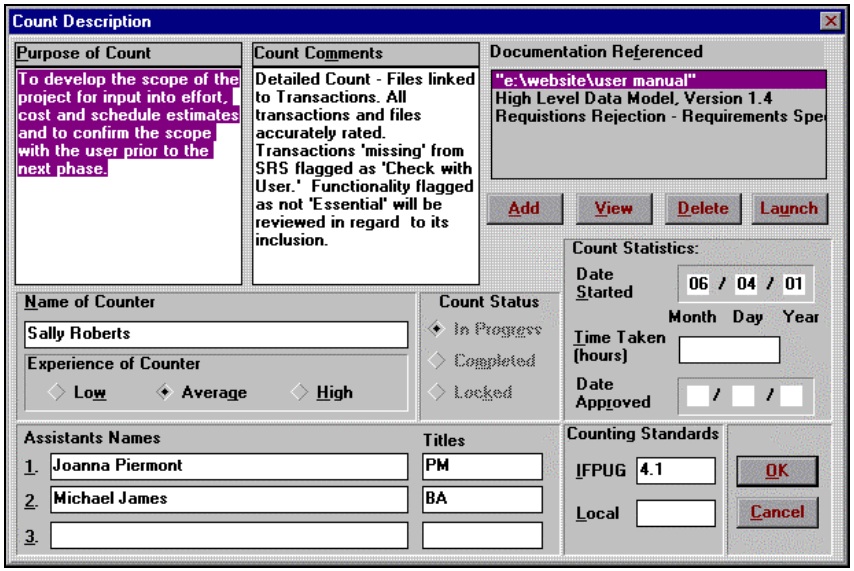
Viewing the Count Description

Each Function Point Count in the *WORKBENCH* contains a **Count Description** dialogue box. This is where ***documentary information*** about the count is recorded.

1. From the main menu, select **Function Point Counting**, then select **Count Description**.

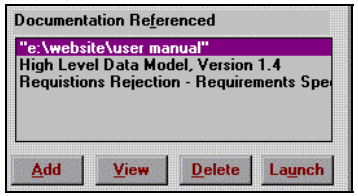
   The Count Description dialogue box is displayed.



You can see in this dialogue box that there is information related to

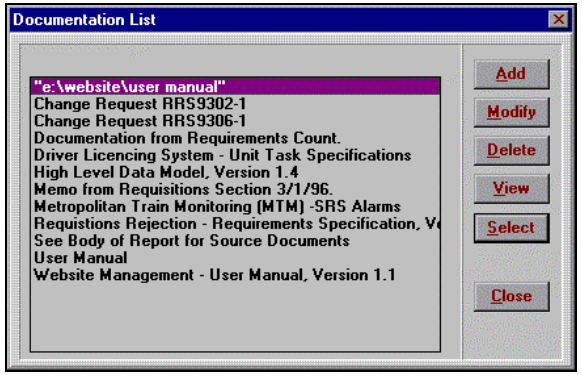
- *The **purpose** of the count*
- ***Comments** about the count*
- *The **names** of the people responsible for the count*
- ***Dates** and time*
- ***Standards** applied to the count.*

Notice in the top right hand corner of the ***Count Description*** *dialogue box, the* ***Documents Referenced*** *for this count are recorded.*



2. For this Tutorial Exercise, in the **Documents Referenced** dialogue box, select the **Add** button.

The Documentation List dialogue box is displayed.



In this dialogue box, you can manage the list of documentation used for the Function Point Analysis.

3. In the **Documentation List** dialogue box, select **Close** to return to the **Count Description**.

4. Select **Cancel** in the **Count Description** to return to the functional hierarchy, or **Ok** if you wish to save changes you may have made.

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Attaching Documentary Notes

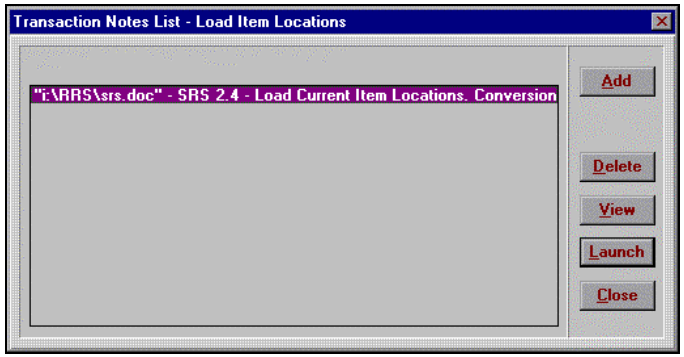
Documentary Notes should be included throughout the count to clarify decisions made regarding transactions, files or General System Characteristics in order to ensure that your count is fully auditable, verifiable and defensible.

To see the notes linked to a logical transaction

1. For this Tutorial Exercise, select the transaction named **Load Item Locations**. This transaction is found in the **Warehouse Locations Maintenance** component, in the **Catalogue** component.

   The Classify Transaction dialogue box is displayed.

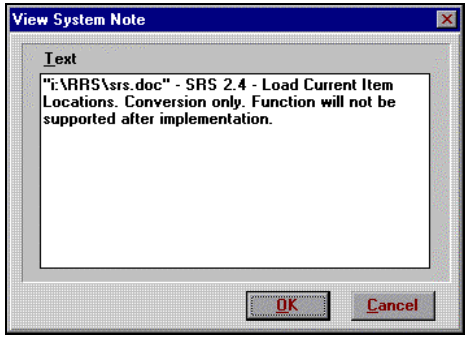
2. In the **Classify Transaction** dialogue box, select the **Link Notes** button.
   The Transaction Notes List dialogue box is displayed.



Transaction Notes *are short documentary notes which can be used to make your count fully auditable and defensible. From here, you may Add new notes, or, Delete or View existing notes.*

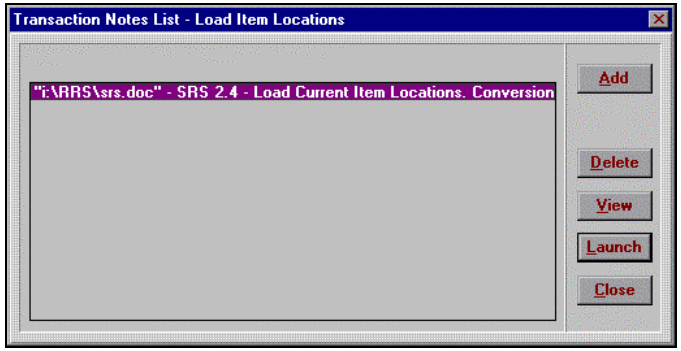
3. In the **Transaction Notes List** dialogue box, highlight a Note in the list, then select **View**.

   The documentary Note is displayed in full.


View System Note
Text
"i:\RRS\srs.doc" - SRS 2.4 - Load Current Item Locations. Conversion only. Function will not be supported after implementation.
OK
Cancel

4. Select **Cancel** to return to the **Transaction Notes List**.

   *The **Transaction Notes List** is displayed.*



   *From here, you may also **Delete Notes** in this List, or **Add new Notes** to the list. When **Launch** is used, if the note provides a path to a document or file, the application associated with the document or file will be started and the document or file will be opened.*

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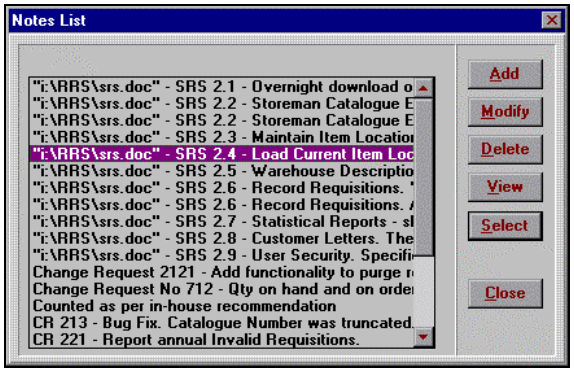
To attach notes to a logical transaction

1. In the **Transaction Notes List** dialogue box, select **Add**.

   *The **Notes List** dialogue box is displayed.*

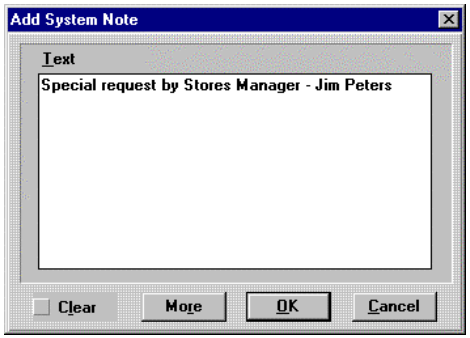

Notes List
"i:\RRS\srs.doc" - SRS 2.1 - Overnight download o
"i:\RRS\srs.doc" - SRS 2.2 - Storeman Catalogue E
"i:\RRS\srs.doc" - SRS 2.2 - Storeman Catalogue E
"i:\RRS\srs.doc" - SRS 2.3 - Maintain Item Locatio
"i:\RRS\srs.doc" - SRS 2.4 - Load Current Item Loc
"i:\RRS\srs.doc" - SRS 2.5 - Warehouse Descriptio
"i:\RRS\srs.doc" - SRS 2.6 - Record Requisitions.
"i:\RRS\srs.doc" - SRS 2.6 - Record Requisitions.
"i:\RRS\srs.doc" - SRS 2.7 - Statistical Reports - sl
"i:\RRS\srs.doc" - SRS 2.8 - Customer Letters. The
"i:\RRS\srs.doc" - SRS 2.9 - User Security. Specifi
Change Request 2121 - Add functionality to purge r
Change Request No 712 - Qty on hand and on orde
Counted as per in-house recommendation
CR 213 - Bug Fix. Catalogue Number was truncated.
CR 221 - Report annual Invalid Requisitions.
Add
Modify
Delete
View
Select
Close

   *This is the list which is a store of Notes for the whole System. You can **select** one or more Notes from this list to include them in the **Transaction Notes List**.*

   You can also select from this list in the File dialog and the General System Characteristics to annotate count items.

2. For this Tutorial Exercise you will ***add a new note*** to the **Notes List**. Select **Add** from the **Notes List** dialogue box.

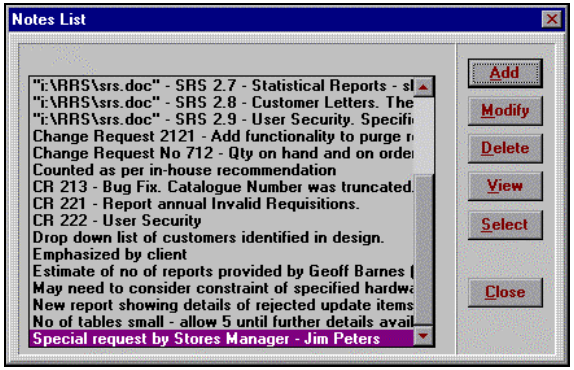
   The Add a Note dialogue box is displayed.



*Here you **type** a new note which you can select later for inclusion in the Transaction Notes List.*

3. For this Tutorial Exercise, type the new Note: **Special request by Stores Manager – Jim Peters**

4. Press **Ok**, to add the Note and return to the **Notes List**.


Notes List
"i:\RRS\srs.doc" - SRS 2.7 - Statistical Reports - sl
"i:\RRS\srs.doc" - SRS 2.8 - Customer Letters. The
"i:\RRS\srs.doc" - SRS 2.9 - User Security. Specifi
Change Request 2121 - Add functionality to purge r
Change Request No 712 - Qty on hand and on orde
Counted as per in-house recommendation
CR 213 - Bug Fix. Catalogue Number was truncated.
CR 221 - Report annual Invalid Requisitions.
CR 222 - User Security
Drop down list of customers identified in design.
Emphasized by client
Estimate of no of reports provided by Geoff Barnes
May need to consider constraint of specified hardwa
New report showing details of rejected update items
No of tables small - allow 5 until further details avail
Special request by Stores Manager - Jim Peters
Add
Modify
Delete
View
Select
Close

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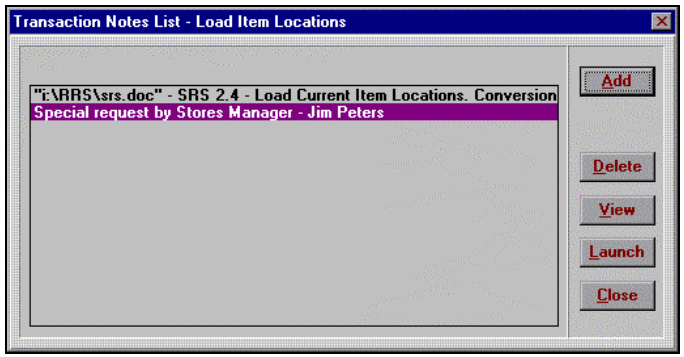
5. Highlight the new **Note** and press the **Select** button.

   The Note is inserted in the Transaction Notes List.



6. **Close** the **Transaction Notes List**.

7. Finally, in the **Classify Transaction** dialogue box, select **Ok** to save any changes you may have made and return to the functional hierarchy.

Assigning Label / Options (User Defined Attributes) to a Transaction

Labels and their associated Options are used to assign user-defined attributes to Transactions so that Transaction sub-sets and their associated Files can be selected in order to facilitate analysis and reporting.

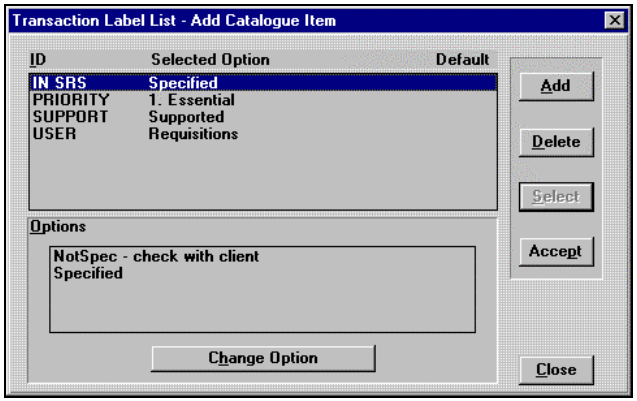
To see the Labels and the Option values for each Label assigned to a logical transaction

1. For this Tutorial Exercise, first select the transaction named **Add Catalogue Item** which is located under the **Catalogue** component.

   *The **Classify Transaction** dialogue box is displayed for that transaction.*

2. From the **Classify Transaction** dialogue box, select **Link Labels**.

   The Transaction Label List dialogue box is displayed.



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In this example, there are ***4*** *Labels linked to the transaction. The* ***Add Catalogue Item*** *transaction has attributes assigned as follows:*

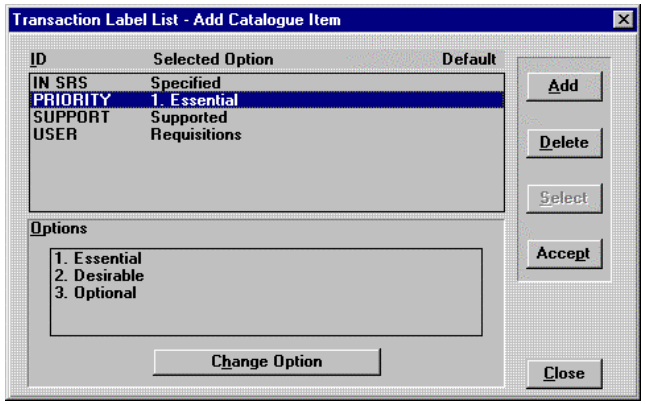
- *The transaction is* ***Specified*** *(by the Client) in the* ***SRS*** *(System Requirement Specifications),*
- *It is a* ***Priority / 1. Essential*** *transaction in the solution,*
- *It is* ***Supported*** *(in production), and*
- *Will be* ***Used*** *by* ***Requisitions*** *staff.*

To change the label / option assigned to a logical transaction

For this Tutorial Exercise you will ***change*** the **PRIORITY Label Option**.

1. In the **Transaction Label List**, highlight the **Priority** Label.

   *The Label **Options** (i.e. the possible values this Label can have) for this **PRIORITY** Label are displayed.*



   This is a count for a Development Project. Each Transaction has been assigned an Option for the Label PRIORITY to indicate how important this Transaction is in the software solution. Use of this Label allows us to size not only the whole project but the amount of functionality in the sub-sets of Essential, Desirable or Optional.

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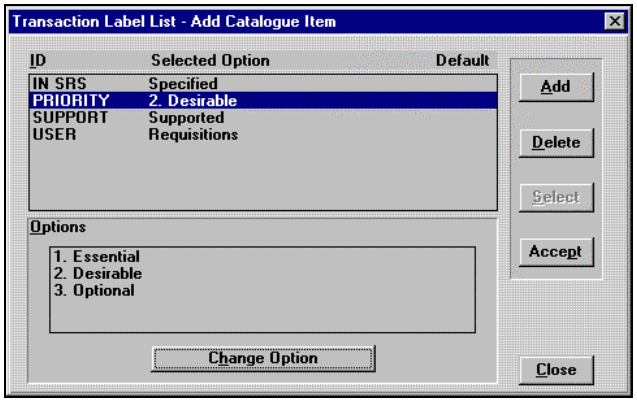
2. Highlight the Option: **2. Desirable** and select **Change Option** .



The Label now shows the new Selected Option: ***Desirable***

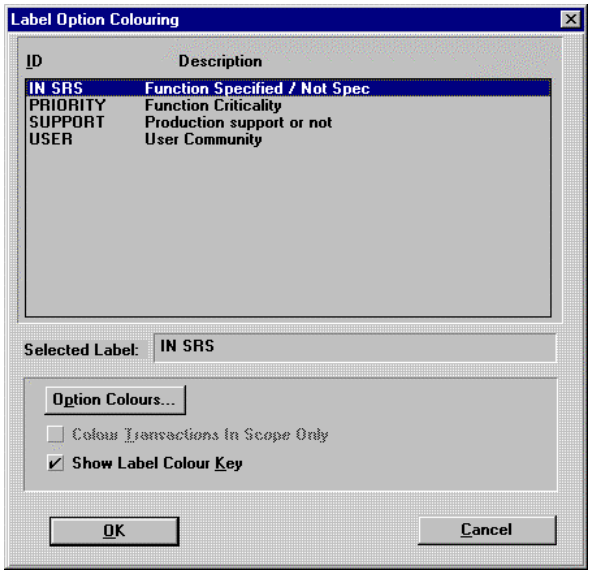
3. Select **Close** to return to the **Classify Transaction** dialogue box and **OK** to return to the functional hierarchy.

To see the Option Values for a Label assigned to all Logical Transactions

For this Tutorial Exercise, you will display the Option values assigned to each Logical Transaction for the **PRIORITY Label** and see one way the colours used to illustrate the Option values can be changed..

1. From the main menu, select **Reporting,** then select **Enable Transaction Label Colour Display**.

   The Label Option Colouring dialogue is displayed. This shows the Labels used in this count.



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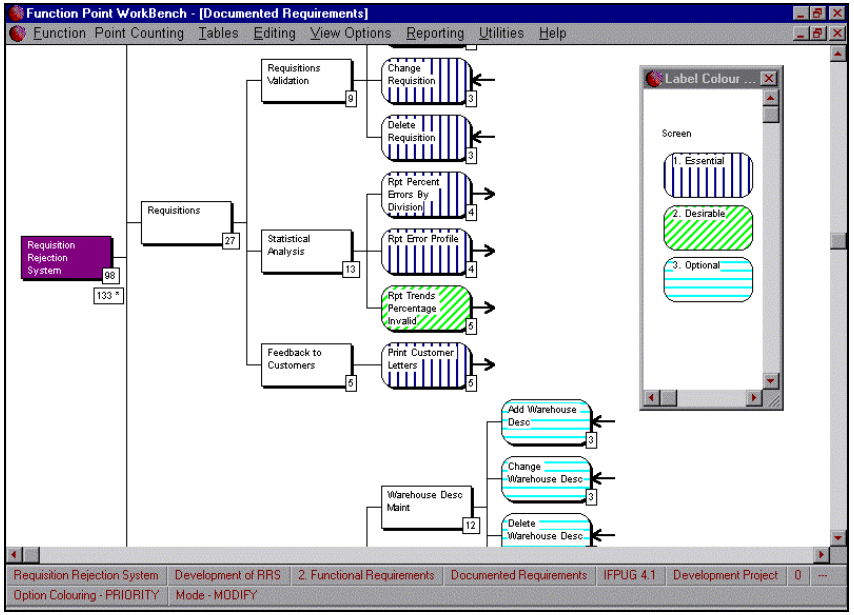
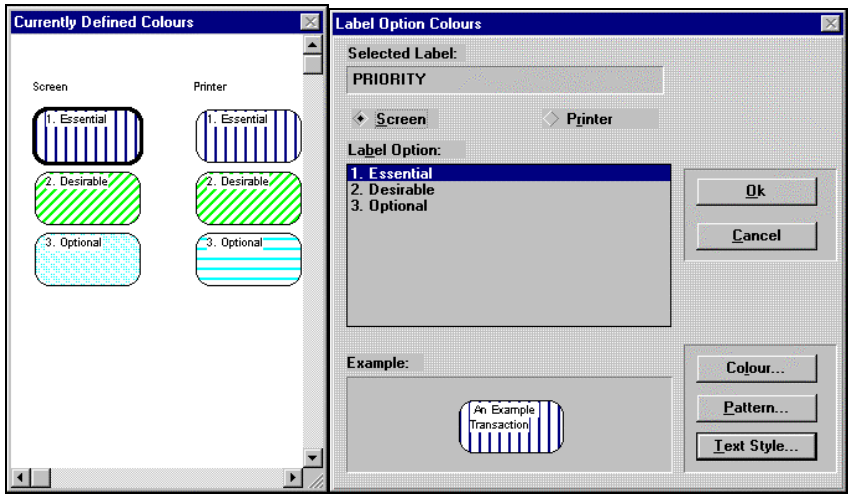
2. Highlight the Label **PRIORITY** and select **Ok** to return to the Hierarchy Display.



The Transactions in the Hierarchy are now **'coloured'** *to illustrate the Option Value for the selected* **Label – PRIORITY** *assigned to each Transaction. This display can be retained while you work.*

Change the Option value for the **PRIORITY Label** for any Transaction as described in the previous exercise and note how the display colour is refreshed to reflect your change.

3. Re-enter the Label Option Colouring Display (**Reporting / Enable Transaction Label Colour Display)**, highlight the Label **PRIORITY** and select the **Option Colours** button.



*Each **Option value** of a Label is assigned a **colour / pattern combination** for on screen display and for printing. This feature enables the Label / Option values for each transaction to be visually expressed in the Transaction Hierarchy display and in the Hierarchy Diagram print.*

*The LHS box headed **Currently Defined Colours** shows the **Colour / Pattern / Text Style** combinations for each Label Option of the selected Label for each of Screen and Printer displays.*

To change the 'colours' for a Label Option:

- *select the display type*
  - ✧ ***Screen*** *or* ***Printer***
- *select the Label Option*
- *use **[Colour...]**, **[Pattern...]** and **[Text Style...]** to define the 'colour' for the Label Option.*

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4. Select **Screen** display type and for different **Label Options**, try the effect of different **Colour / Pattern / Text Style** combinations.

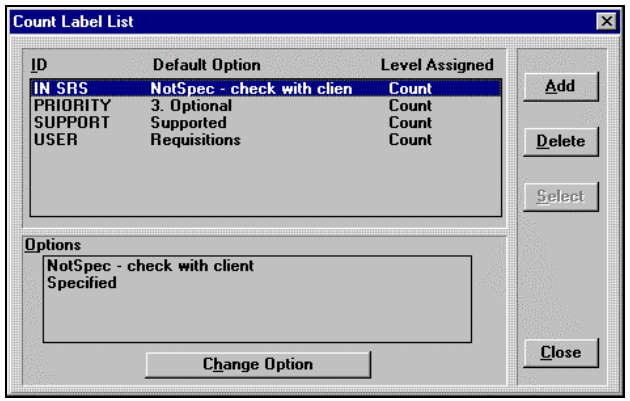
5. Select **Ok** to return to the Transaction Hierarchy display.

6. From the main menu, select **Reporting,** then select **Close Transaction Label Options Display** to remove the Label / Option colouring.

To build the Count Label List

2. From the main menu, select **Function Point Counting,** then select **Count Labels**.

   The Count Label List is displayed. This shows the Labels used in this count to assist in analysis and reporting.



   Highlight each Label in turn to see the alternative values for each Label.

   The Labels defined for this count are:

   - ***IN SRS*** *- used to indicate whether the functionality is defined in the SRS (**Specified**) or whether we perceive specification is missing and we need to check with the user about its inclusion (**NotSpec – check with client**).*
   - ***PRIORITY*** *- used to indicate how important the function is in the solution - **1. Essential, 2. Desirable, 3. Optional**.*
   - ***SUPPORT*** *- used to indicate whether or not the function will be part of the implemented product or whether it is being built to support implementation.*

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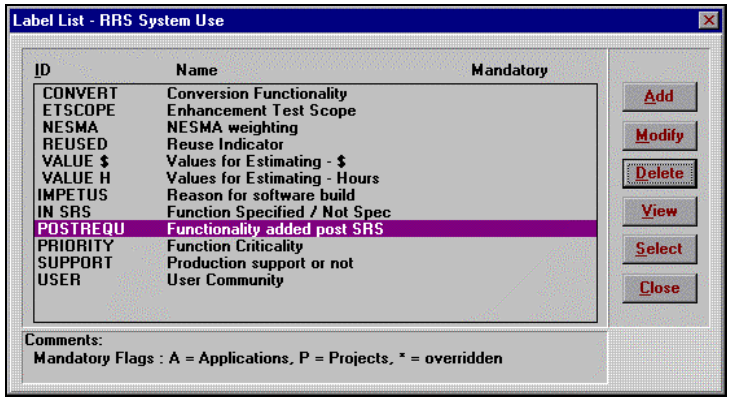
- ***USER*** *- used to indicate what user community will be the principal user or beneficiary of this functionality.*

The ***Add*** *button allows you to add a new* ***Label*** *from the system* ***Label List - System Use.***

2. Select **Add** in the **Count Label List** dialogue box.

The Label List - System Use dialogue box is displayed.



This shows the Labels which are available for use in a count for this system.

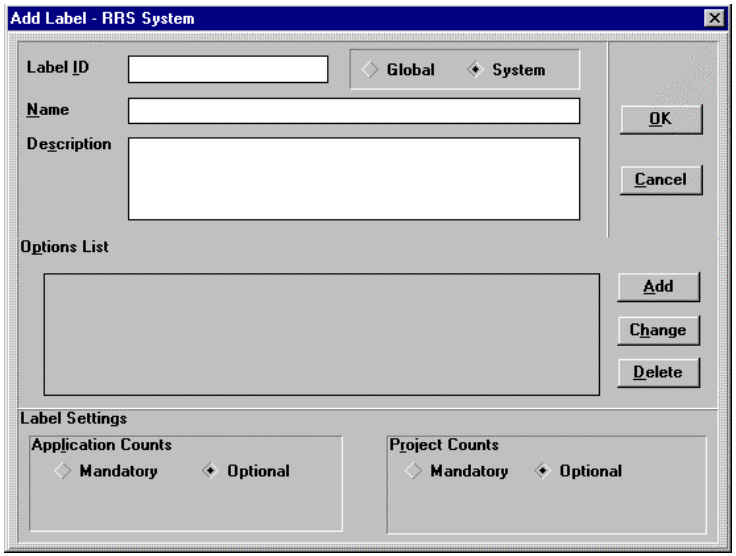
Notice that the ***Label Options*** *are* ***not*** *displayed at this level.*

The ***Add*** *button allows you to define a new Label.*

The ***Select*** *button copies the highlighted Labels into the* ***Count Label List****.*

3. Next, in the Label List, select **Add**.

   The Add Label dialogue box is displayed.



   *The new **Label** is entered with at least two **Options** or possible values.*

   When the new Label has been entered in this dialogue box, it is added to the Label List.

4. For this Exercise, in the **Add Label** dialogue box enter a new Label Id as ***PLATFORM***.

   Refer to the dialogue shown below.

5. Select a Label Type of **System**. This means that this label is defined for use within this system.

6. Enter the Name: ***Delivery Platform***.

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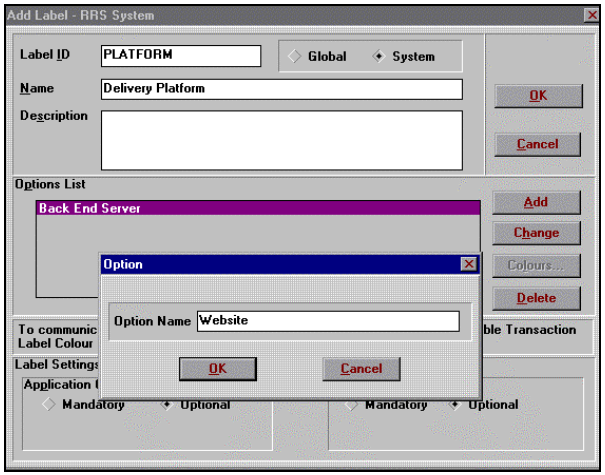
7. Enter the Description: ***Proposed delivery platform as per Business Case #23096***

8. Select **Add** to enter an Option: ***Back End Server***

   Repeat the previous step to enter the Option: ***Website***



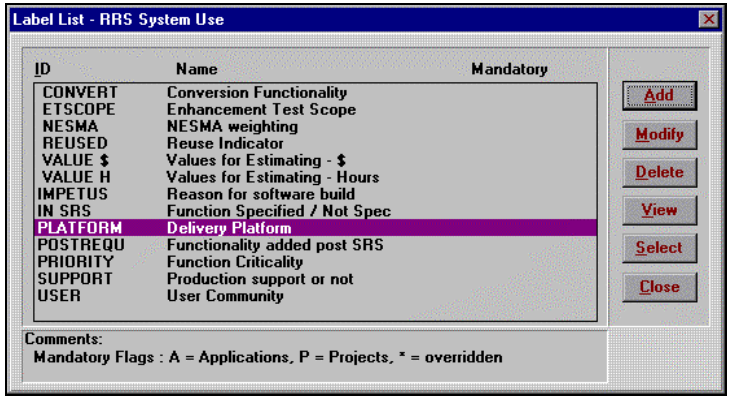
*When you select **Ok** in the Add Label dialogue box, the following message will be displayed.*

In the previous exercise, you saw how to change the 'colours' assigned to Label Options. When you create a new Label, the system will automatically assign defaults for you or you can choose to define your own.

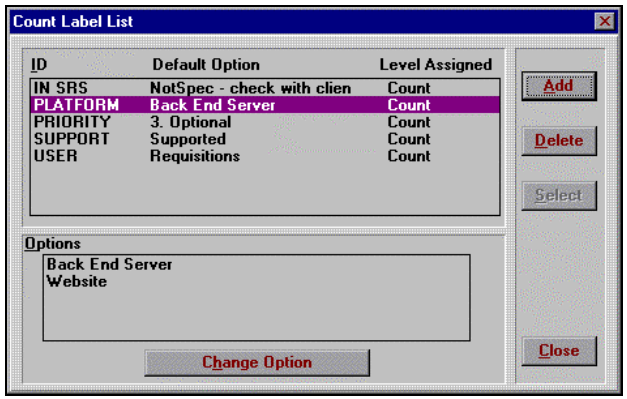
***Yes** will accept the default colour assignments, **No** will allow you to define your own.*

For this exercise, choose **Yes** and the new Label named **PLATFORM** will be added to the **Label List**.

*The Label List now contains the **new** Label **PLATFORM.***



9. In the **Label List**, highlight the **PLATFORM** Label and press **Select** to enter that Label into the **Count Label List**.



*The **Count Label List** is displayed with the new Label.*

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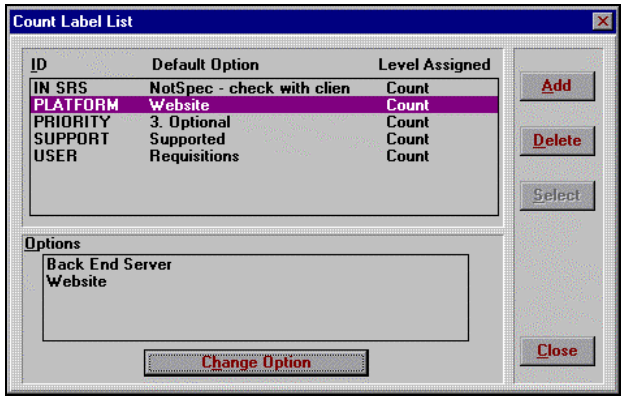
*The **Count Label List** now contains the new **PLATFORM** Label ready to be assigned to the counts Transactions. It currently has the **Default Option: Back End Server**.*

10. For this Exercise, you will change the **Default Option** to **Website**. Highlight **Website** in the Options List, then select **Change Option**

*The **PLATFORM** Label will show the new **Default Option**.*



11. Enter **Close** to close this dialog.

To assign a new Label / Option to a Transaction

You assign a Label / Option to a Transaction:

- directly, by entering each Transaction and attaching the Label / Option
- globally, from a component, by assigning a Label/Option (or group of Label/Options) to the Transaction children of the component.

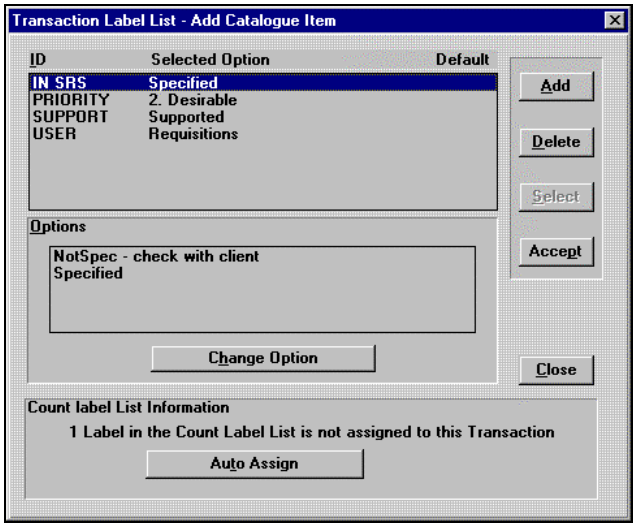
In this Tutorial Exercise, you will assign a Label/Option directly to a Transaction.

1. For this Tutorial Exercise, first select the transaction named **Add Catalogue Item** which is located in the **Catalogue** component.

   *The **Classify Transaction** dialogue box is displayed for that transaction.*

2. From the **Classify Transaction** dialogue box, select **Link Labels**.

   The Transaction Label List dialogue box is displayed.



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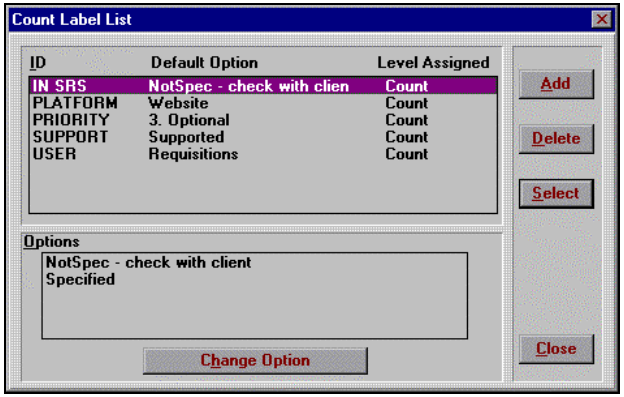
Notice that there is a message indicating that there is a Label in the Count Label List for which an Option has not been assigned to this Transaction. ***Auto Assign*** *gives a mechanism of assigning all Labels in the Count Label List but not yet in the Transaction Label List directly into the Transaction Label List.*

3. In the **Transaction Label List** dialogue box, select **Add**.

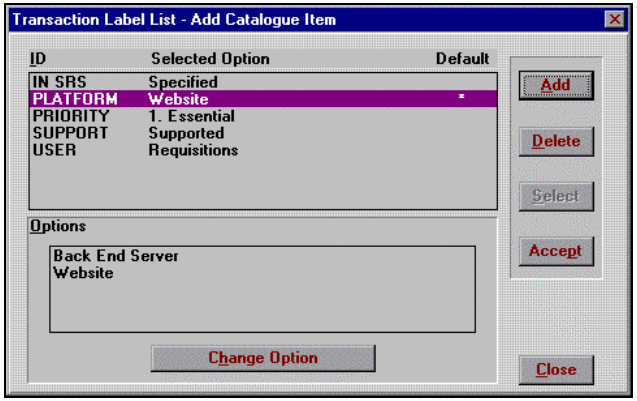
The Count Label List dialogue box is displayed.



In this dialogue box, The ***Select*** *button copies highlighted* ***Labels*** *into the* ***Transaction Label List****.*

4. In the Count Label List, highlight the **PLATFORM** Label, then **select** it.

   The selected Label is added to the Transaction Label List.



   *The **Add Catalogue Item** transaction has now been assigned another Label - the **PLATFORM** Label with the **Option Website**.*

   *Notice the * under the default heading. This indicates that the current default Option for the Label has been assigned.*

5. Optionally, select the **Accept** button to acknowledge your acceptance of the Default assignment.

6. Select **Close** to return to the **Classify Transaction** dialogue box.

7. Select **Ok** to save the changes and return to the functional hierarchy.

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Using Labels in Count Views

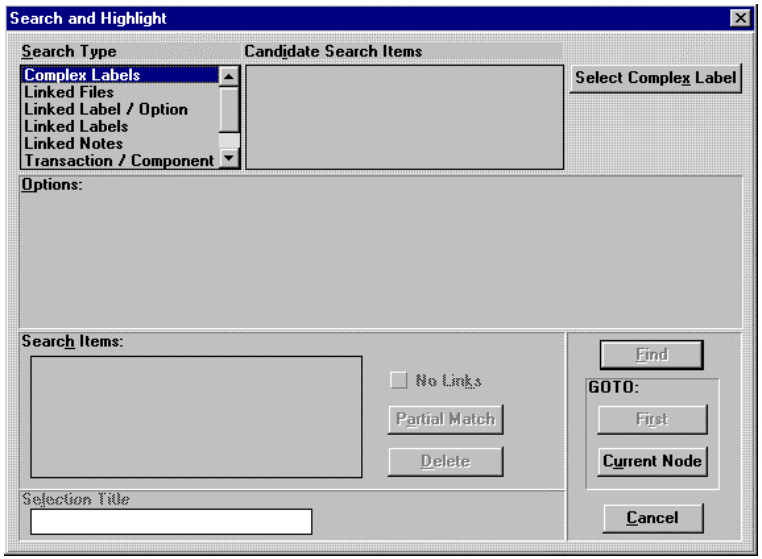
Labels are used in the *WORKBENCH* to define sub-sets of transactions which can be selected along with their associated files in order to facilitate analysis and reporting of the sub-sets.

To use labels to define a count view

For this Tutorial Exercise you will select all transactions in the count which are tagged as having been ***NotSpec – check with client*** from the ***System Requirement Specifications (SRS)*** because you want to check with your client whether this functionality should be included in your project.

1. From the main menu, select **ViewOptions**, then select **Search & Highlight**.

   The **Search & Highlight** *dialogue box is displayed.*



2. For this exercise, in the **Search Type** list, highlight **Linked Label/Option**.

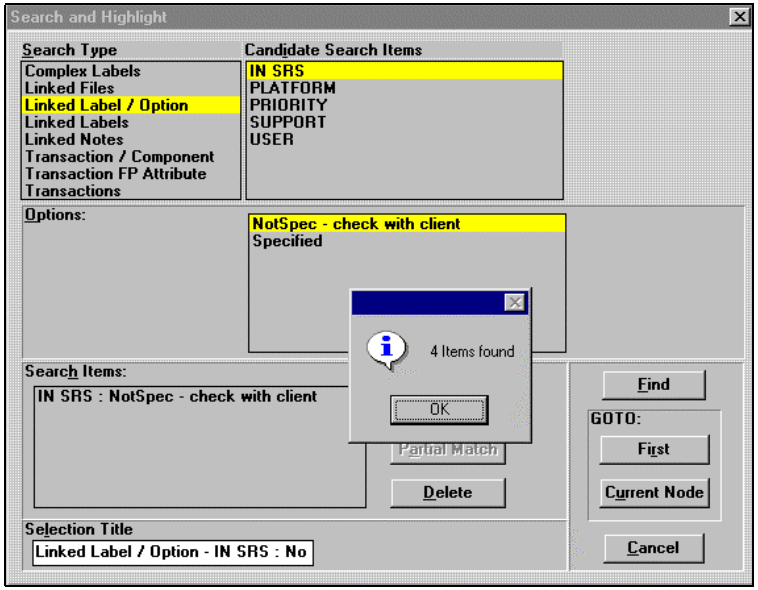
   The Labels available in the Count are displayed.

3. In the **Candidate Search Items List**, highlight the **IN SRS** Label. Refer to the diagram below.

4. In the **Options** list, highlight the **Omitted - check with client** option.

   *The criteria for selection are now entered. The **IN SRS** Label with its Option is displayed in the **Search Items** List.*

5. Press the **Find** button ***in order to locate*** all transactions which contain the selected Label / Option.



   A message is issued stating the number of transactions which meet the criteria.

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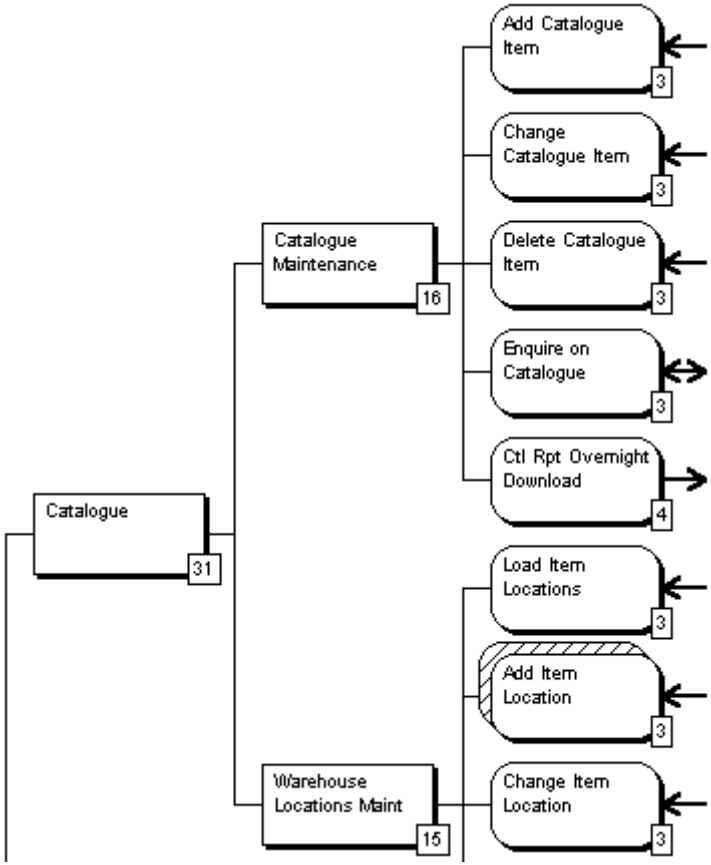
6. Finally press the **GO TO First** button to see the ***first*** transaction which has been assigned the **IN SRS** Label with the option **NotSpec - check with client**.

*All transactions which have been assigned the selected **Label / Option** are displayed in the hierarchy as **shadowed** transactions.*



A 'highlighted' Component or Transaction is displayed in the Hierarchy with a 'hashed' shadow so that it stands out from those around it in the hierarchy display.

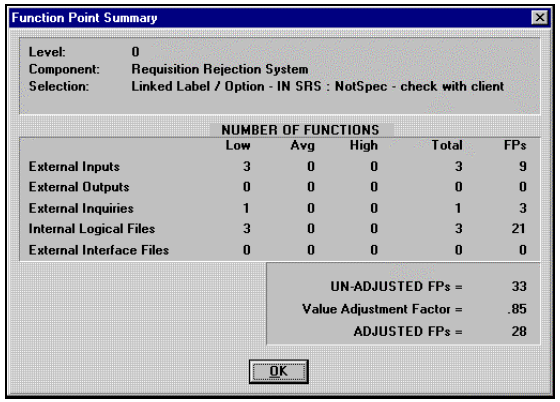
7. To move between highlighted Transactions, use **Shift+UpArrow** and **Shift+DownArrow.**

   This method of selecting a Transaction sub-set provides another way of defining a Count View. Remember, from an earlier topic:

   > ***A Count View is a subset of a Count selected for Reporting***.

   In this Count View, the hierarchy is viewed as if only the highlighted (shaded) Transactions exist and the rest of the hierarchy is ignored.

8. Position the cursor highlight on the root node and, from the main menu, select **Reporting**, then select **Display Summary - with Files...**


Function Point Summary
Level: 0
Component: Requisition Rejection System
Selection: Linked Label / Option - IN SRS : NotSpec - check with client
NUMBER OF FUNCTIONS
Low Avg High Total FPs
External Inputs 3 0 0 3 9
External Outputs 0 0 0 0 0
External Inquiries 1 0 0 1 3
Internal Logical Files 3 0 0 3 21
External Interface Files 0 0 0 0 0
UN-ADJUSTED FPs = 33
Value Adjustment Factor = .85
ADJUSTED FPs = 28
OK

*The **Summary Report** is displayed showing a breakdown of the Function Point Count which includes only the highlighted transactions and files attached to them.*

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9. When the transactions have been highlighted in this way, reports related to that sub-group of transactions can be produced by selecting **Reporting** then **Print Count Reports** from the main menu.

10. To remove the shading and return to the hierarchy, select **ViewOptions**, then select **Clear Highlighting**.

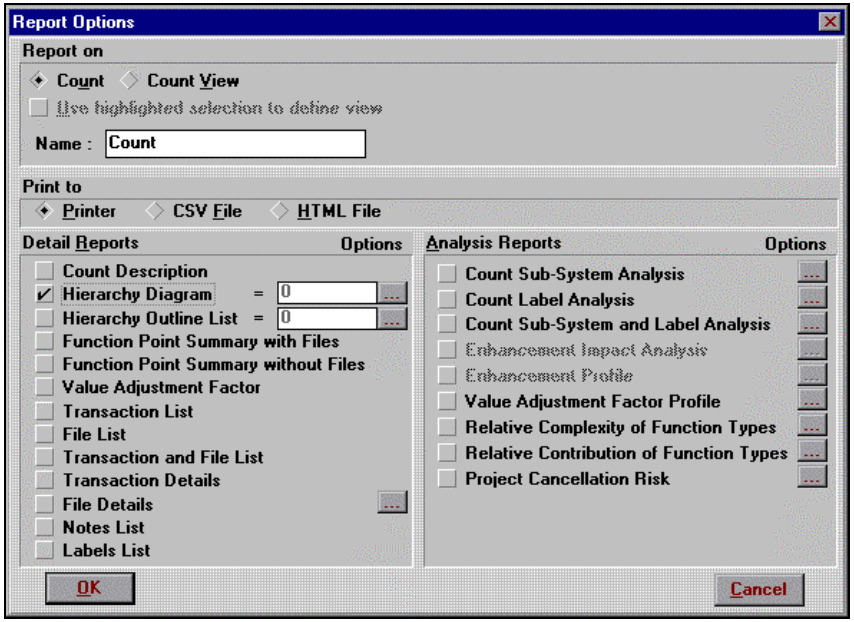
    The shading is removed.

Printing Reports

To print reports for the whole Count.

1. From the main menu, select **Reporting**, then select **Print Count Reports.** This option is only available when a count is loaded.

   The Report Options dialogue box is displayed.



2. To print a Hierarchy diagram for the whole count:
   - under the heading **Report On,** select **Count**
   - under the heading, **Print To**, select **Printer**
   - and under the heading **Reports**, select **Hierarchy Diagram** and press the button next to it marked **[...]** to select the report **Options.**

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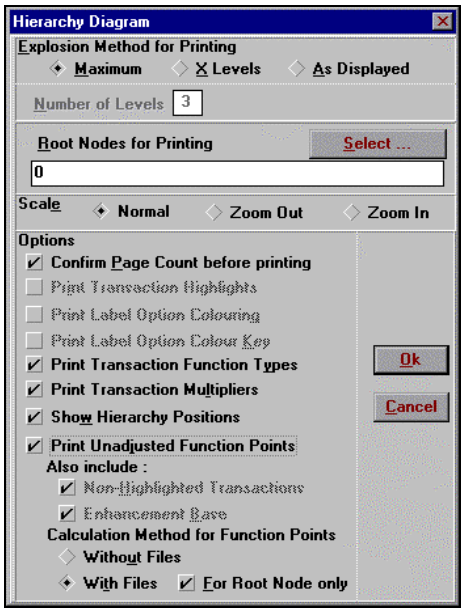
*The options for customising the Hierarchy Diagram print are displayed. Use **F1** Help or the User Manual for a description of the options.*

3. Select the options as in the following diagram.



This set of options will print the Hierarchy diagram fully expanded.

- *For each Transaction, the Transaction Function Type and the number of Function Points will be indicated.*

- *Each component will show the accumulated number of function points for its Transaction children*

- *The function points at the Root node will also include the contribution of the Files i.e. will show the* ***Unadjusted Function Point*** *count for whole count.*

4. Select **Ok** to initiate the reporting of the Hierarchy Diagram.

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To print reports for a Count View

For this Tutorial Exercise, you will select for reporting all transactions in the count which are tagged as being ***PRIORITY / Essential*** below **Requisitions** component node.

1. From the main menu, select **ViewOptions**, then select **Search & Highlight**.

   The **Search & Highlight** *dialogue box is displayed.*

2. For this exercise, in the **Search Type** list, highlight **Linked Label/Option**.

   The Labels available in the Count are displayed.

3. In the **Candidate Search Items List**, highlight the **PRIORITY** Label.

4. In the **Options** list, highlight the **1. Essential** option.

   The criteria for selection are now entered.

5. Press the **Find** button ***in order to locate*** all transactions which contain the selected Label / Option.

6. Finally press the **GO TO First** button to see the ***first*** transaction which satisfies the search criteria.

   All transactions which have been tagged with the selected ***Label I Option*** *are displayed in the hierarchy with 'hashed' shadows.*

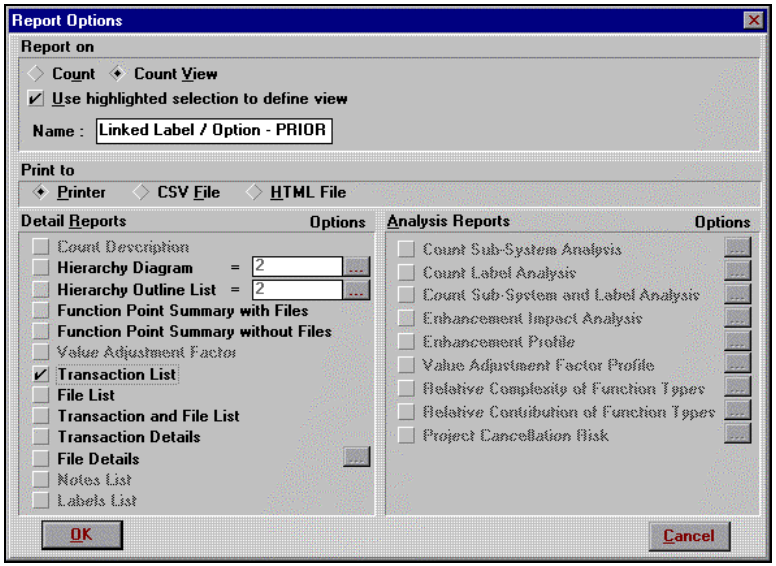
7. Highlight the node **Requisitions.**

8. From the main menu, select **Reporting**, then select **Print Count Reports.**

   The Report Options dialogue box is displayed.

9. To print a transaction list for a Count View.
   - under the heading **Report On,** select **Count View.** This will allow the selection of the Component to first define the view i.e. only include the branch below **Requisitions**
   - **☑ Use highlighted selection to define View** will further limit the view to the highlighted Transactions
   - in **Name**, enter your description of the Count View to print on the report
   - under the heading, **Print To**, select **Printer**
   - and under the heading **Reports**, select **Transaction List**

and select **OK.**



The Transaction List will be printed.

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10. This is the end of Tutorial 1. To close this count, select **Function Point Counting / Close Count**.

11. You can now exit the WORKBENCH™ or proceed to Tutorial 2.

END OF TUTORIAL 1

4 TUTORIAL 2: Creating a New Count for a Development Project

Introduction and Overview

This Tutorial shows you how to create a new Project Count in the FUNCTION POINT WORKBENCH™. Here you can work systematically through the operations and features of the WORKBENCH.

After completing Tutorial 2 of the Tutorials, you may choose to move on to Tutorial 3, or explore the many features of the WORKBENCH using this Section as a guide.

This Tutorial introduces the features of the FUNCTION POINT WORKBENCH ™ within the context of a new Function Point Count.

This Tutorial assumes that you have already completed Tutorial 1.

For this Tutorial Exercise, you will create a Function Point Count with the following four-part name:

System Name: **Sales System**
Project Name: **Letters - Promotional**
Phase Name: **Functional Requirements**
Scenario Name: **First Count**

The count is for a Development Project for the **Sales System**. The project is called **Letters - Promotional**. The Project Life Cycle Phase is at **Functional Requirements**. The Scenario Name is **First Count**.

Topics in this Tutorial

- Creating a Function Point Count
- Entering Count Description
- Building the Functional Hierarchy
- Classifying Transactions
- Linking Transactions to Logical Files
- Displaying the Function Point Size
- Classifying Logical Files
- Entering the Value Adjustment Factor
- Completing a Count
- Updating the System Master

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Creating a Function Point Count

To create a Function Point Count

1. If necessary, start WORKBENCH and enter your password.

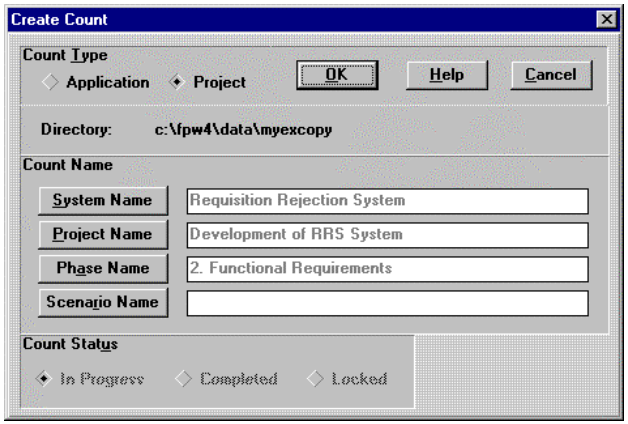
   The WORKBENCH logo and main menu are displayed. From here you are able to carry out all Function Point Counting operations.

2. From the main menu, select **Utilities**, then select **Change Directory** and select the directory containing your copy of the Example database.

   This is the directory in which you will create a Function Point Count as a Tutorial Exercise.

3. From the main menu, select the **Function Point Counting** menu option, then select **Create Count**.

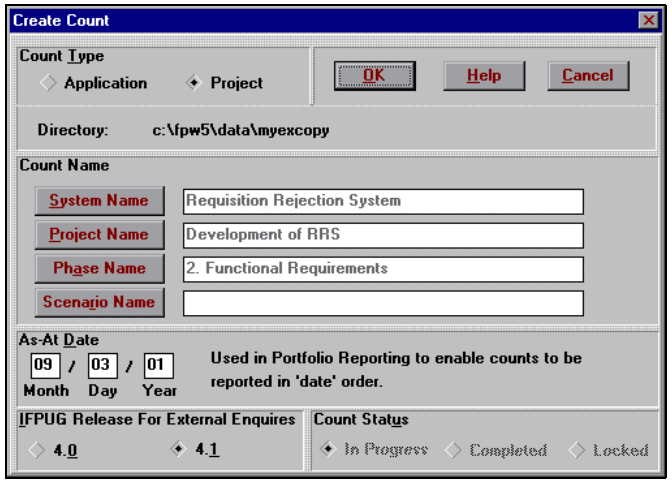
   The Create Count dialogue box is displayed.



The Create Count dialogue box will contain the name of the last count accessed by your User Name. It may also be blank.

From here you will enter the name of the new count you wish to create.

4. In the **Create Count** dialogue box, select the **Project** button under **Count Type** in order to record the new count as a **Project Count**.



5. Select the **System Name** button to access the **System List** so that you can add a *new* System Name.

The System List is displayed.

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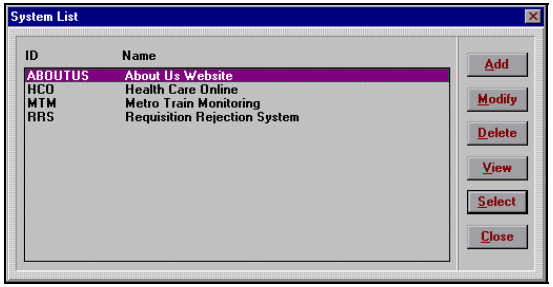
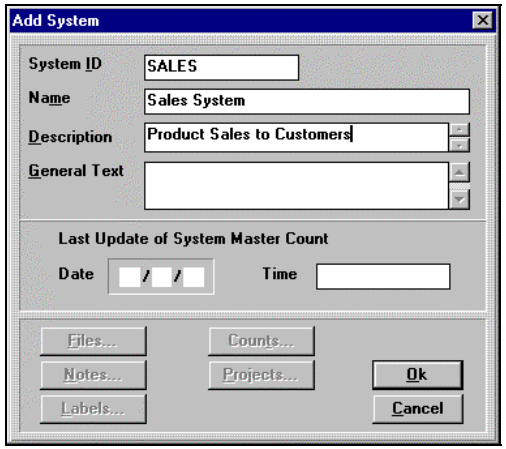


In this dialogue box, you may select an existing system, or Add a new System Name.

*For this exercise, you will **Add** a new System Name.*

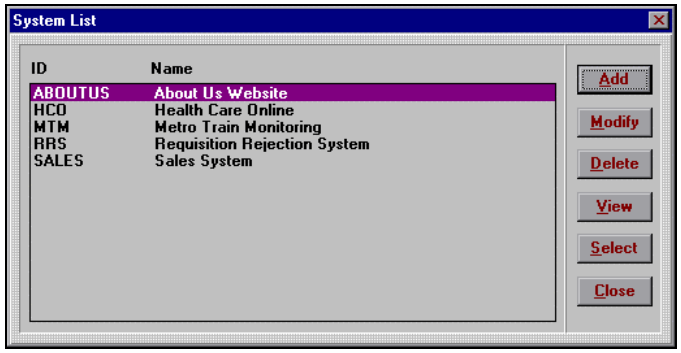
6. In the **System List** dialogue box, select **Add**.

The Add System dialogue box is displayed.



7. Enter the new **System Name** using the details shown in the diagram above.

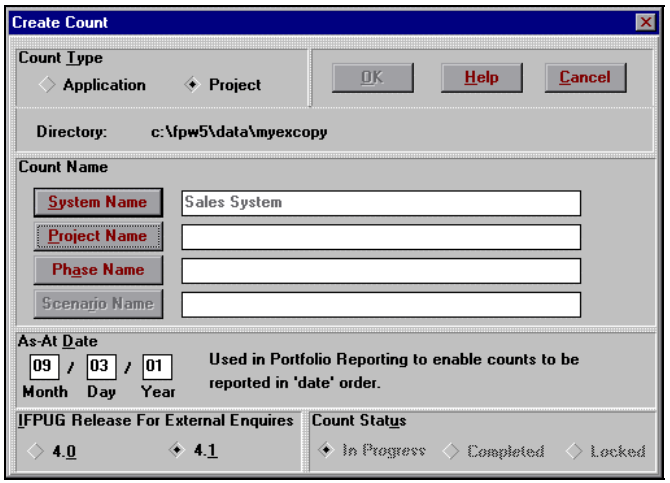
8. *After* you have entered the System Name details, select **Ok** to add the new **System Name** to the **System List**.



The System List is displayed with the new System Name.

9. In the **System List**, use the **Select** button or 'double-click' to select the new **System Name** into the **Create Count** dialogue box.

The new System Name is displayed in the Count Name.



From here, the Project Name, Phase Name and Scenario Name will be entered in order to complete the Count name.

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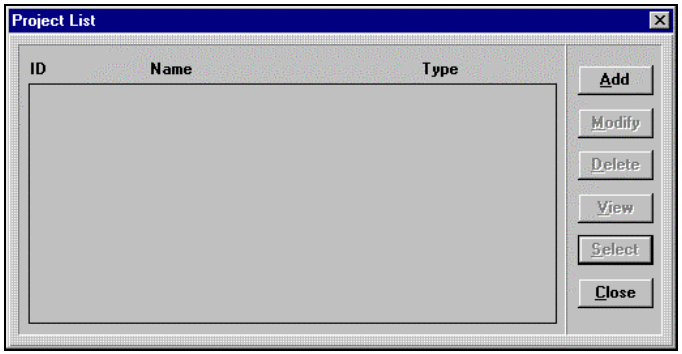
To enter a Project Name

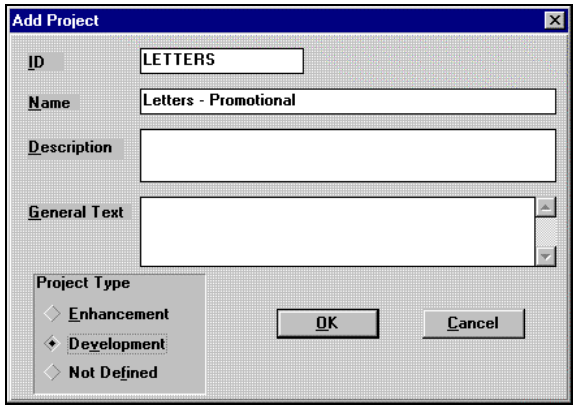
1. In the **Create Count** dialogue box, select the **Project Name** button so that you can create a new Project Name.



The Project List is displayed.

2. Select **Add**, so that you can add a ***new*** **Project Name**.

The Add Project is displayed.

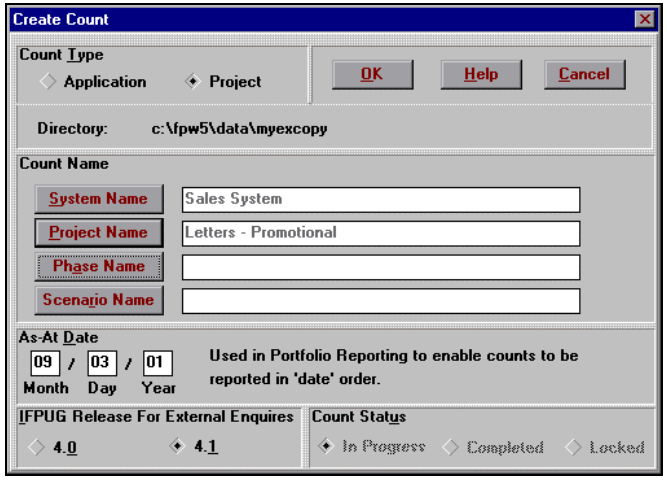


3. Enter the new **Project Name** using the details shown in the diagram above. Be sure to select a **Project Type** of **Development.**

4. *After* you have entered the Project Name details, select **Ok** to add the new **Project Name** to the **Project List**.

5. In the **Project List**, select the Project Name into the Create Count dialogue box.

The Project Name is entered in the Count Name.



From here you will select the Phase Name for this count.

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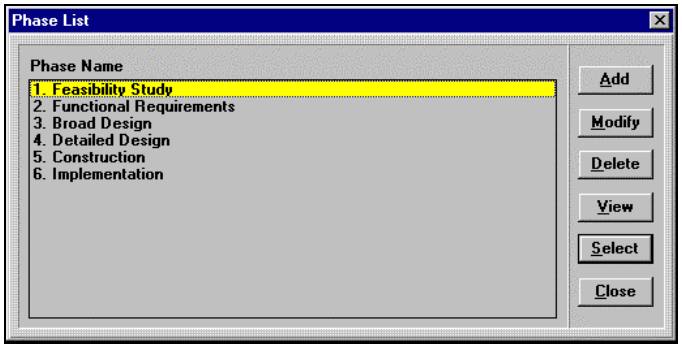
To enter a Phase Name

1. Select the **Phase Name** button. This will allow you to enter the name of the ***phase*** within the Software Life Cycle, at which the count is to be done.

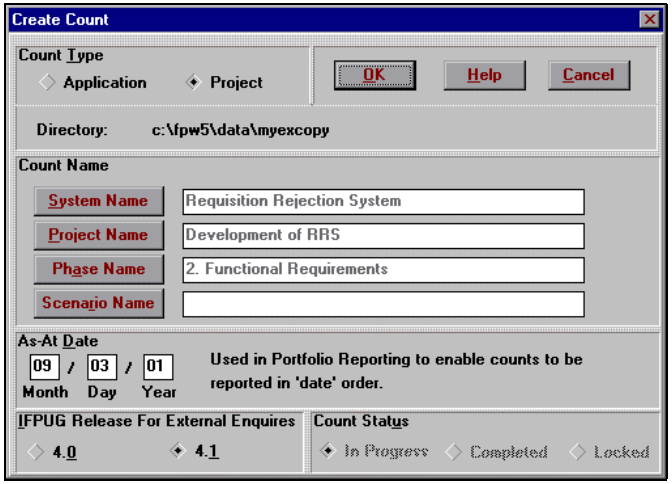


The Phase List contains the Phases used within your software development life cycle.

You can select the Add button if you wish to enter a new Phase Name.

2. For this Exercise, highlight then select the **2. Functional Requirements** phase.

The Phase Name is entered.



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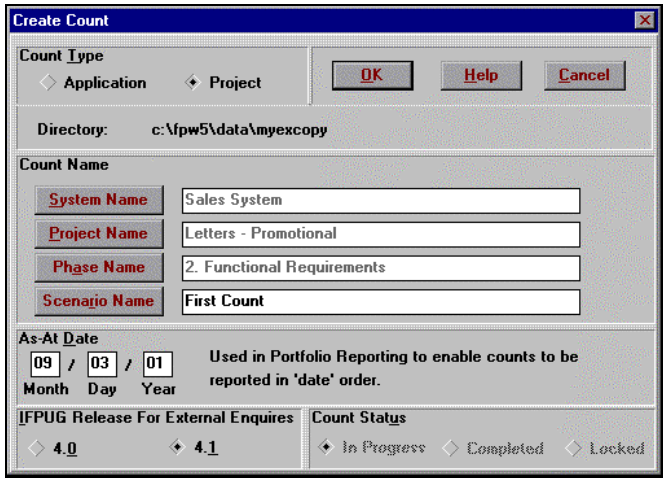
To enter a Scenario Name

1. You may now enter the Scenario Name directly in the space provided. For this exercise, type the Scenario Name: **First Count.**

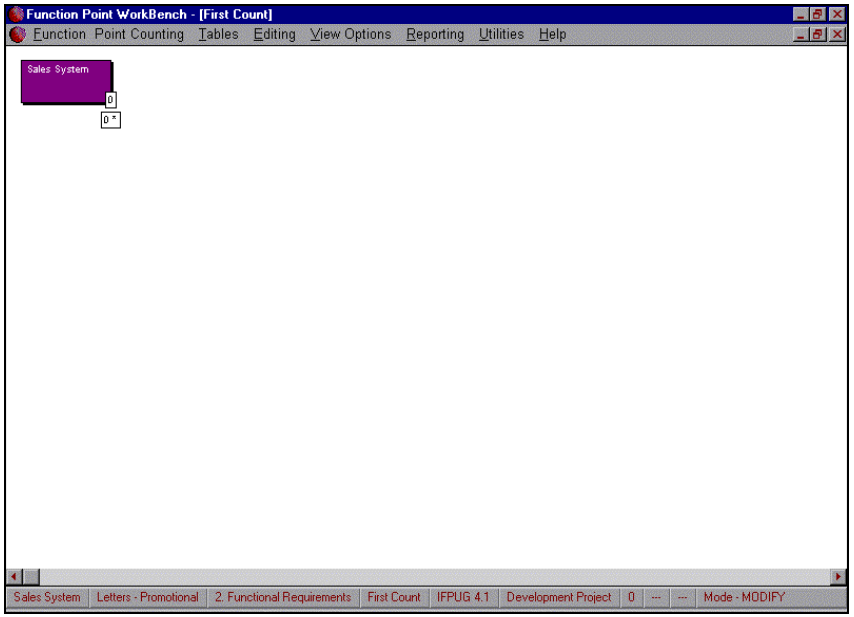


2. Note that the **As-At Date** defaults to the current date. You may change it if you wish.

3. The **IFPUG Release** for the format of External Inquiries defaults to **4.1.** For this exercise, leave it set to **4.1**.

4. Select **Ok** to create the new count.

*The count is created, and the **Root Node** is displayed ready for you to begin building the functional hierarchy.*



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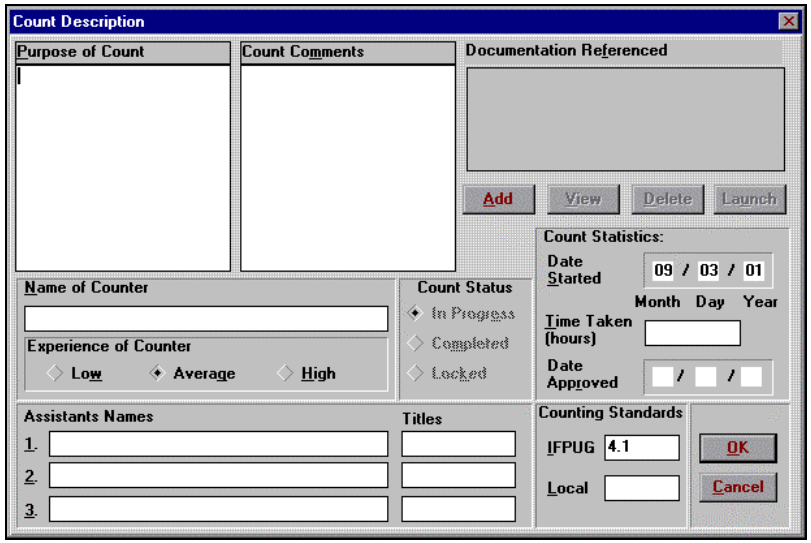
Recording the Count Description

The Count Description is used to record information about the count.

To enter the count description

1. From the main menu, select **Function Point Counting**, then select **Count Description**.

   The Count Description dialogue box is displayed..



2. Here you may enter information regarding this count.

3. Select **Ok** after you have entered the Count Documentation.

   From here, the components and transactions in the functional hierarchy can be built.

Building the Functional Hierarchy

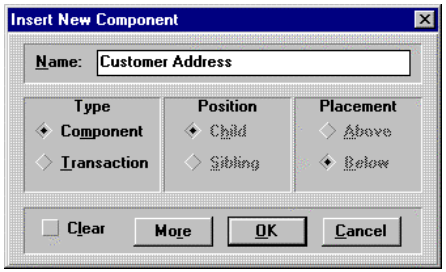
For this Tutorial Exercise, you will be given the relevant data to enter *at each step* of this procedure.

First you will ***add*** two new components to the **Root Node**.

To build components in the functional hierarchy

1. Highlight the **Root Node**, then from the main menu select **Editing**, then select **Add**. Alternatively, press the **Insert** key.

   The Insert New Component dialogue box is displayed.



   In this dialogue box, you enter the name of the new component or transaction, its type and its position in the hierarchy.

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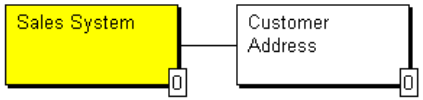
2. For this exercise, enter the component name ***Customer Address***, as a **component child** of the Root Node.

   *When you press **Ok** the new component is inserted **as a child of the Root Node**.*



3. In order to repeat this process for the second component ***Orders***, first ensure that the **Root Node,** i.e. **Sales System** is highlighted.

   Editing operations are carried out in relation to the highlighted node.

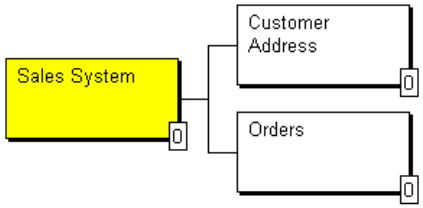
4. Press the **Insert** key or use the main menu options: **Editing**, then **Add**.

   The Add Component dialogue box is displayed showing the most recent node details.

5. Enter the Component Name: **Orders**

6. Select **Ok** to return to the hierarchy.

The Root Node now has two components: ***Customer Address*** *and* ***Orders***.



If you wish to make changes to the details within a component, select it by double-clicking, then make your changes.

From here you will add transactions to the components in the Sales System.

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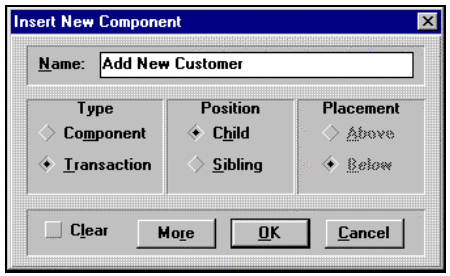
To build transactions in the functional hierarchy

1. In the functional hierarchy, highlight the component named ***Customer Address***, then press the **Insert** Key. Alternatively, highlight the component, select **Editing**, then select **Add**.

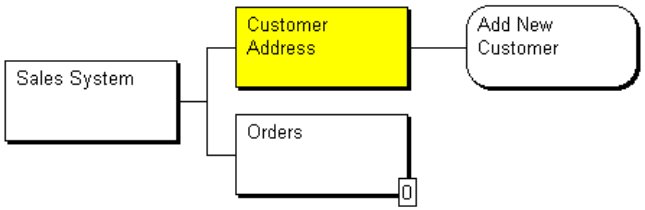
   The Insert New Component dialogue box is displayed.



2. In the **Add Component** dialogue box, enter the transaction name **Add New Customer**, select the **Transaction** radio button, and select the position as **Child**.

3. Select **Ok** to record the transaction.

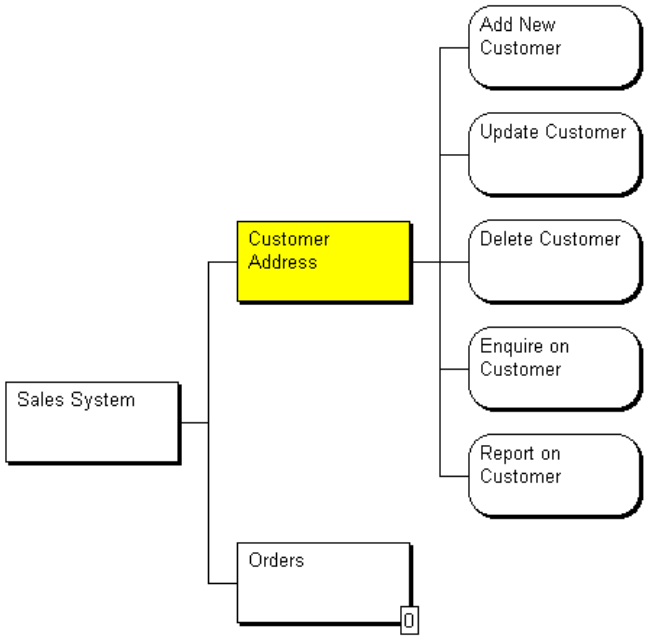
   The new transaction is added to the hierarchy component.



4. *Repeat* this process in order to add the following transactions.

Update Customer
Delete Customer
Enquire on Customer
Report on Customer

The hierarchy now contains a ***Customers*** *branch, with five transactions representing the user functions specified for this Project.*



From here you will enter the remaining transactions.

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5. For this Tutorial Exercise, enter the following transactions for the **Orders** component. Each transaction will be a ***child*** of the **Orders** component.

Add an Order
Change an Order
Delete an Order
Enquire on Orders
Print Orders Summary

This time we will make use of the **More** button.

- ***More*** *allows you to insert a new Component or Transaction and remain in the Insert dialog to continue adding new nodes. The hierarchy is redrawn only when you exit the dialog.*

Therefore,

- Enter **Add an Order** and, instead of using **OK,** select **More.**
- Enter **Change an Order** and select **More.**
- Continue entering the Transactions in this manner until **Print Orders Summary.** After entering this item, select **OK** to add the item and exit to the hierarchy.

The completed hierarchy should now contain the ***ORDERS*** *transactions as well as the* ***CUSTOMER*** *transactions.*

If you make an error, you can ***Delete*** *a node by highlighting the node and using the keyboard* ***Delete*** *key.*

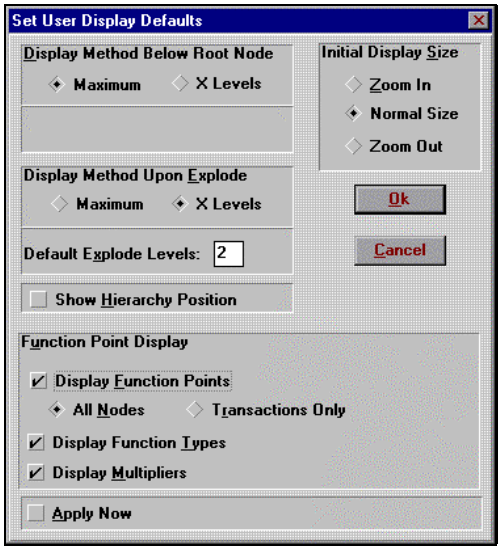
Setting Hierarchy Display Defaults

You can control the way in which the functional hierarchy is displayed by using the **Set User Display Defaults** feature.

To set the display defaults for your User signon,

1. From the main menu, select **ViewOptions**, then select **Set User Display Defaults**.

   The Set User Display Defaults dialogue box is displayed.



   *In this dialogue box, the **Initial Display Size** controls the physical size of the functional hierarchy as it appears on the screen.*

   *The **Display Method** groups control the number of levels displayed in relation to the **Root Node** when the count is loaded or exploded.*

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Show Hierarchy Position *is used to display the hierarchy position (i.e. Level No) of each node in the Hierarchy Display.*

The ***Function Point Display*** *allows you to choose what* ***Function Point*** *data is displayed in the Hierarchy while you work.*

Apply Now *allows you to request that your choices will take effect immediately.*

2. As an exercise, select the **Zoom In** button in the **Initial Display Size** group, select **Apply Now** and **Ok** to return to the hierarchy.

   The size of the hierarchy display changes.

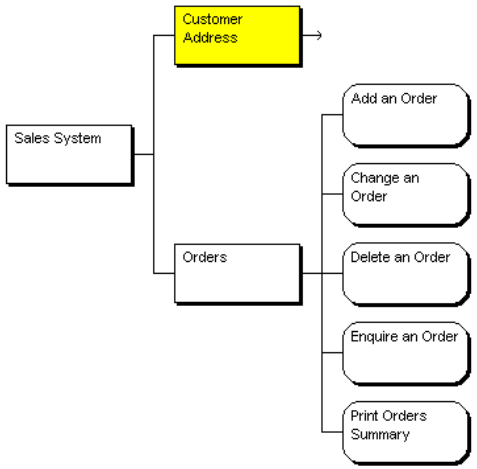
5. Use the **Set User Display Defaults option** to change the hierarchy back to **Normal Size**.

To implode and explode the hierarchy view

1. In the functional hierarchy, position the cursor (single-click) on the **Customer Address** component.

2. From the main menu, select **ViewOptions**, then select **Implode Branch**.

   *The transactions to the right of the highlighted node are **imploded**.*



   *Notice that the number of visible levels in the hierarchy has been reduced. The **arrow** on the Node indicates the existence of imploded levels.*

3. You can also use a Mouse action to implode a branch.

   In the Functional Hierarchy, use the Mouse to point to the **Orders** component. Implode the branch by pointing to the intersection of the line connecting the highlighted node to its children and click the RHS Mouse button.

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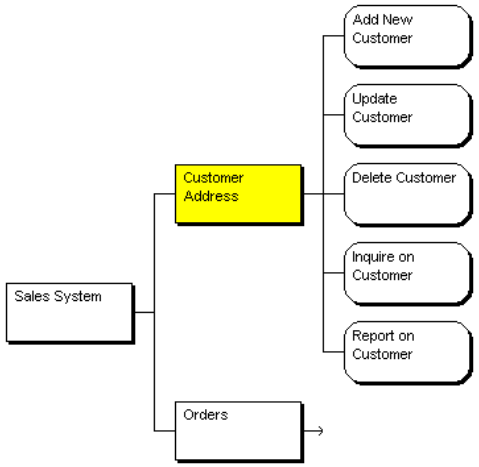
You can also implode the branch by holding down the RHS Mouse button and double-clicking the LHS Mouse button.

4. In the functional hierarchy, highlight the **Customer Address** component.

5. Next, from the main menu, select **ViewOptions**, then select **Explode Branch - Use Defaults**.

   The hierarchy is exploded below the highlighted component up to the number of levels in the hierarchy indicated in the Set Display Defaults dialogue.



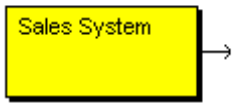
6. You can use a Mouse action to explode a branch.

   As an exercise, in the functional hierarchy, use the Mouse to point to the **Orders** component. Explode the branch by pointing to the right hand arrow on the node which indicates that the branch is not fully exploded and clicking the RHS Mouse button.

   You can also explode a branch while holding down the LHS Mouse button and double-clicking the RHS Mouse button.

   As an exercise, use either of the above methods to implode the **Root Node** component.

   *The components and transactions to the right of the highlighted node are **imploded** and an arrow displayed on the Node.*



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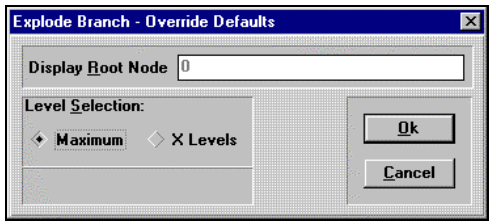
7. From the main menu, select **ViewOptions**, then select **Explode Branch - Override Defaults**.

   The Explode Branch - Override Defaults dialogue box is displayed.



   *From here you may select a particular number of levels by clicking the **X Levels** radio button, then entering a value. Alternatively, you may click the **Maximum** (levels) radio button to display the maximum number of hierarchy levels.*

7. As an exercise, in the **Explode Branch - Override Defaults** dialogue box, select the **Maximum Levels** option and select **Ok** to fully explode the hierarchy.

   The components and transactions to the right of the highlighted node are revealed.

Moving Transactions or Components

For this Exercise you will move the **Delete Customer** transaction from the **Customer Address** component, to the **Orders** component.

To move a transaction using the mouse and main menu

1. First highlight the transaction ***to be moved***: **Delete Customer**.

2. Next, from the main menu select **Editing**, then select **Move From**.

   *A rectangle is drawn around the transaction. This transaction is the **source** of the move.*

3. Now, highlight the **Orders** component (the ***destination*** of the transaction to be moved).

4. From the main menu, select **Editing**, then select **Move To**.

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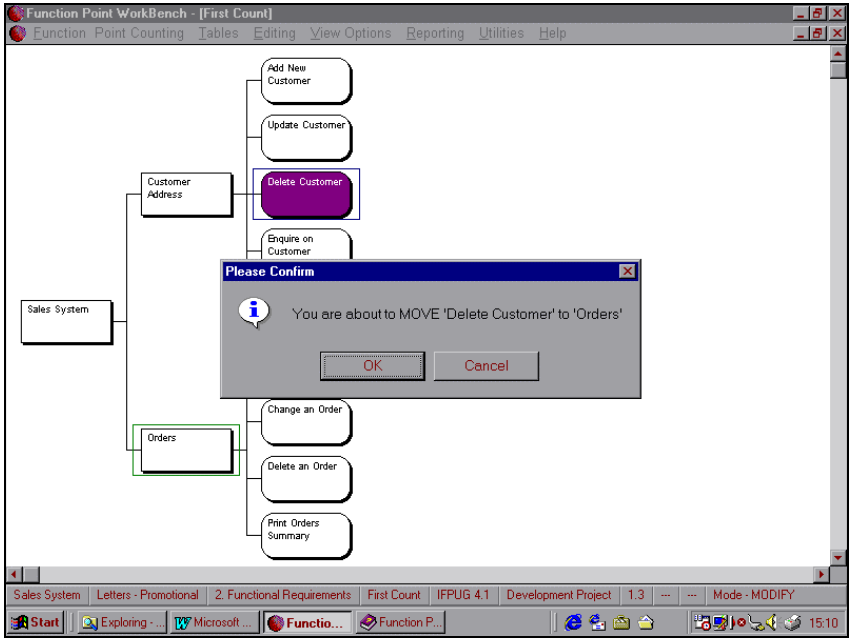

*A message requesting confirmation is displayed. Upon **OK**, the Transaction is **moved to its new position.***

The moved transaction is highlighted.

5. Since this is not an ideal position for the **Delete Customer** transaction, as an Exercise, we will move the transaction ***back to its original position*** under the **Customer Address** component but using the Mouse.

6. Use the Mouse to point to the **Delete Customer** transaction and click the RH Mouse button once.

   The message Performing MOVE - please select the destination appears in the Status bar.

7. Use the Mouse to point to the **Customer Address** transaction and click the RH Mouse button once.

   *A message requesting confirmation is displayed. Upon **OK**, the Transaction is **moved to its new position.***

   Notice that the Move places the transaction at the bottom of the sibling group.

8. To move the Transaction back to its original group, use **Ctl+UpArrow** twice to promote the transaction up the sibling group.

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Copying Transactions or Components

Copying transactions or components is carried out in a similar way to moving transactions.

To copy a transaction using the mouse and main menu

1. First highlight the transaction to be copied (the *target* transaction).

2. Select **Editing**, then select **Copy From**.

   A rectangle is drawn around the target transaction or component: the source of the copy.

3. Highlight the ***destination component***.

4. Select **Editing**, then select **Copy To**.

   *The **Copy Options** dialogue box is displayed. Here you have the choice to specify the transaction links which are to be copied with the transaction or component.*

   *Use **F1** Help for a description of these Options.*

5. To use the Mouse when Copying, follow the same method as for the Move but, in addition, hold down the **Ctrl** key when selecting with the Mouse.

Classifying Transactions

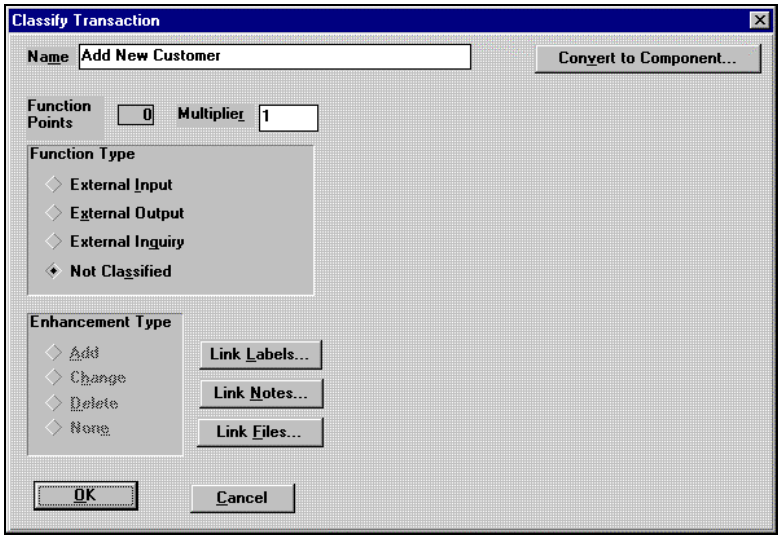
Transactions in the *WORKBENCH* are classified by **Function Type** and **Complexity**.

The **Classify Transaction** dialogue box also offers the facility to convert the transaction into a component at any time during your hierarchy editing sessions. Components may also be converted to transactions.

To classify a transaction

1. First select the **Add New Customer** transaction by highlighting it, then press the **ENTER** key. Alternatively double-click the transaction.

   The Classify Transaction dialogue box is displayed.



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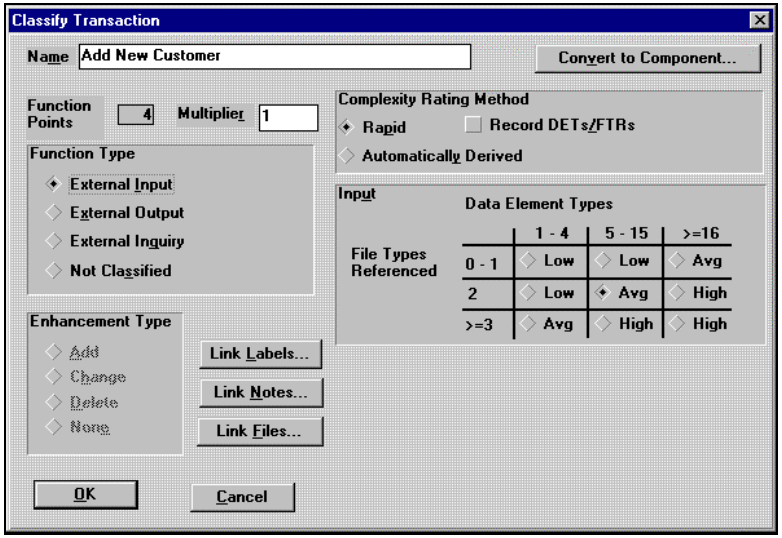
In this dialogue box, you will classify the transaction.

Notice the ***Convert to Component*** *button. If you select this* ***Convert to Component*** *button, a confirmation is required to complete the conversion.*

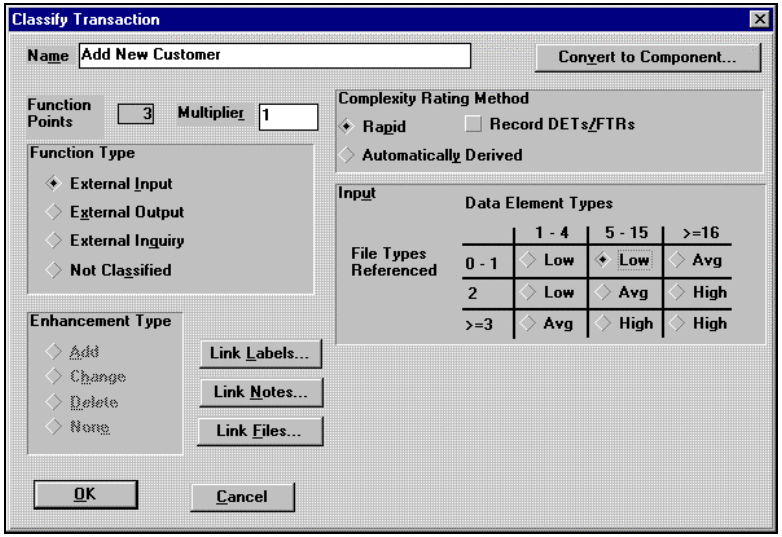
2. For this exercise, select the **External Input** button to assign the Function Type.

The External Input Complexity Matrix is displayed.



From here, you record the complexity of the transaction. Notice that the ***Complexity Rating Method*** *defaults to* ***Rapid*** *and the* ***Complexity Rating*** *defaults to* ***Average****.*

3. For this exercise, record the transaction as **Low** Complexity with **5-15 Data Element Types** and **0-1 File Types Referenced** using the **Rapid** Complexity Rating Method.



The transaction is now classified.

4. Select **Ok** to return to the hierarchy.

Note that Add New Customer node in the hierarchy now indicates Function Type and the Function Points assigned

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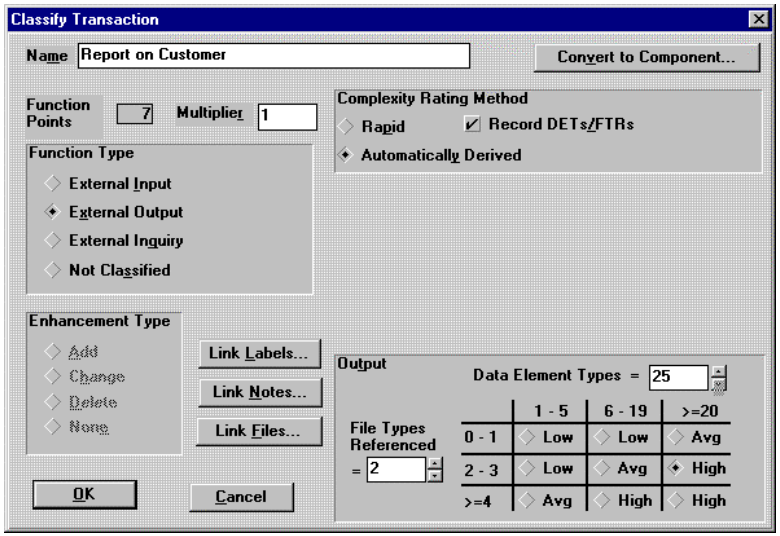
5. Enter the **Report on Customer** transaction. For this exercise, record this transaction with a Function Type of **External Output**. Use the **Automatically Derived** Complexity Rating Method with **25 Data Element Types** and **2 File Types Referenced** to effectively assign a **High** Complexity.



6. To complete this Tutorial Exercise, classify each of the remaining transactions in the hierarchy.

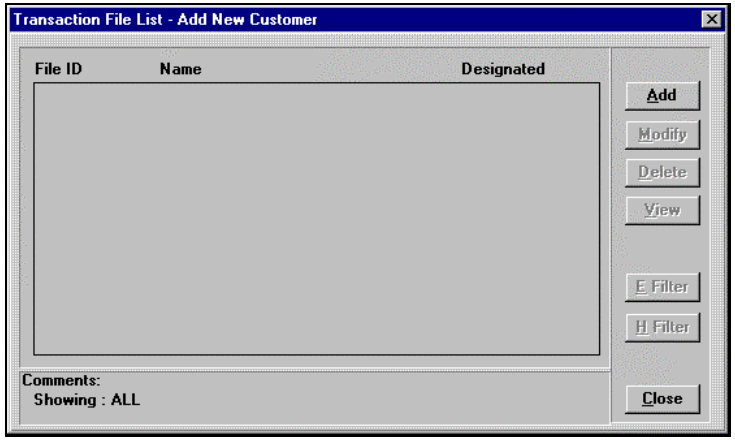
Linking Transactions to Logical Files

To link a logical file to a transaction

For this Tutorial Exercise, you will link a **CUSTOMERS** file to the transaction which ***uses*** the file: the **Add New Customer** transaction.

1. Select the **Add New Customer** transaction. Then in the **Classify Transaction** dialogue box, select the **Link Files** button.

   *The **Transaction File List** dialogue box is displayed showing the files which are used by this transaction.*



   *In this example, the **Transaction File List** contains no linked files. Here you will select the **Add** option to add a new file to the Transaction File List.*

2. Select **Add** in the **Transaction File List** dialogue box.

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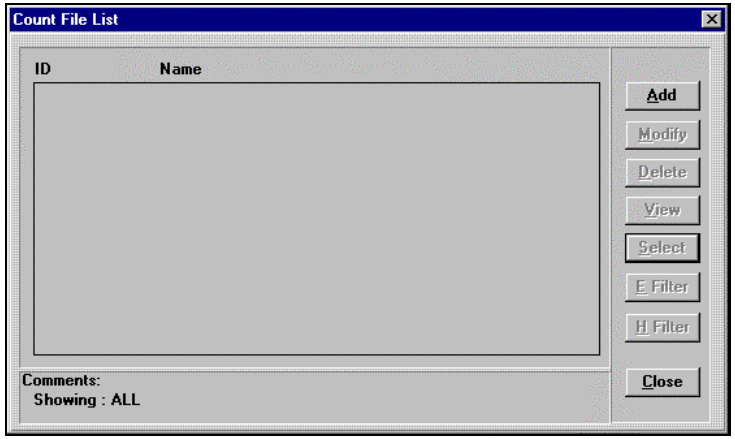
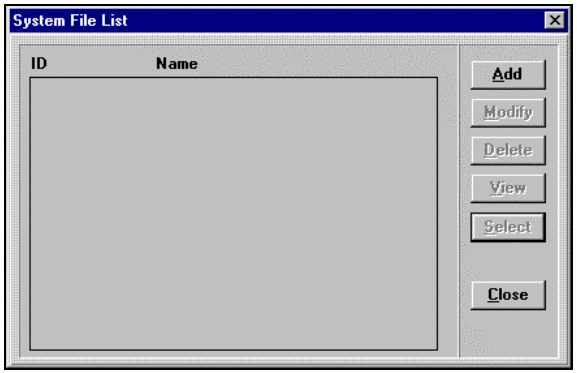
*The **Count File List** is now displayed, showing the logical files used or referenced in the application.*



3. Next, in the **Count File List** dialogue box, select **Add**.

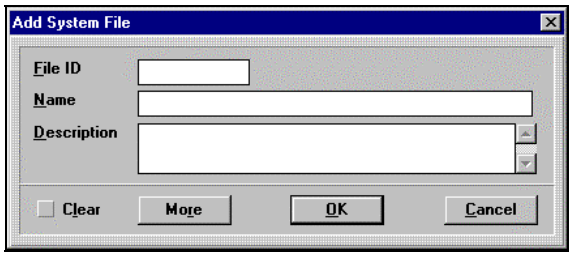
*The **System File List** is displayed, showing the names of the files used or referenced in counts for this system.*



*This is a **'master'** list of files which are available to any count recorded under the current System name.*

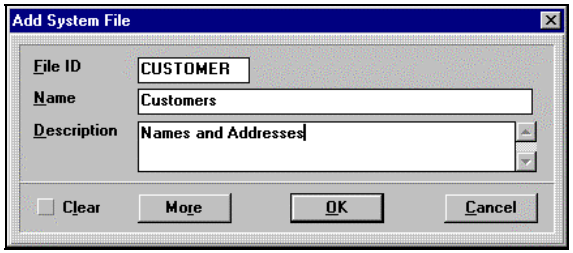
4. In the **System File List** dialogue box, select **Add**.

   *The **Add System File** dialogue box is displayed.*



   *This dialogue is used to enter descriptive information about a new logical file. When you select **Ok**, the new file is added to the **System File List**.*

5. For this Tutorial Exercise you will enter the details shown in the screen diagram below.



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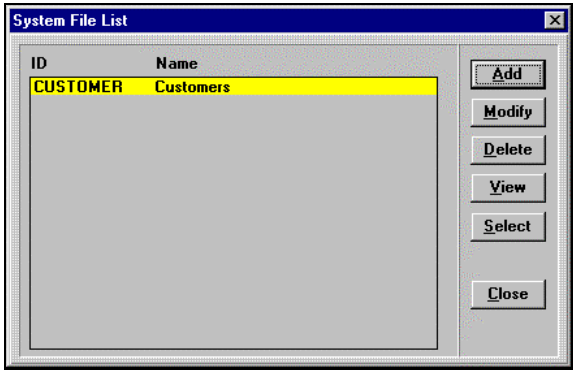
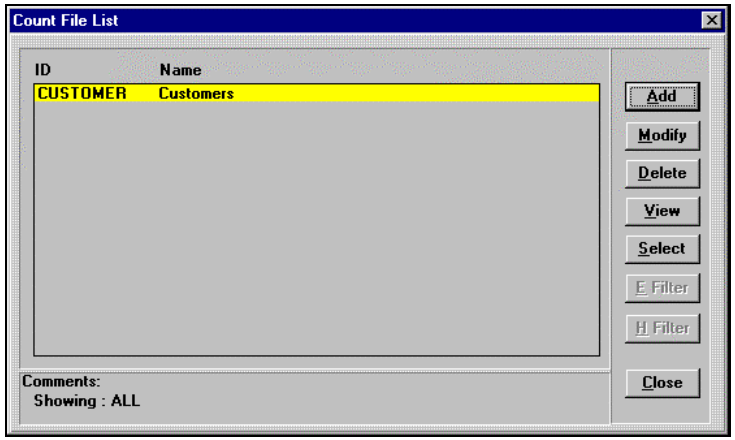
6. Select **Ok** to record the new System File in the **System File List**.

*The **CUSTOMER** file is entered in the System File List.*



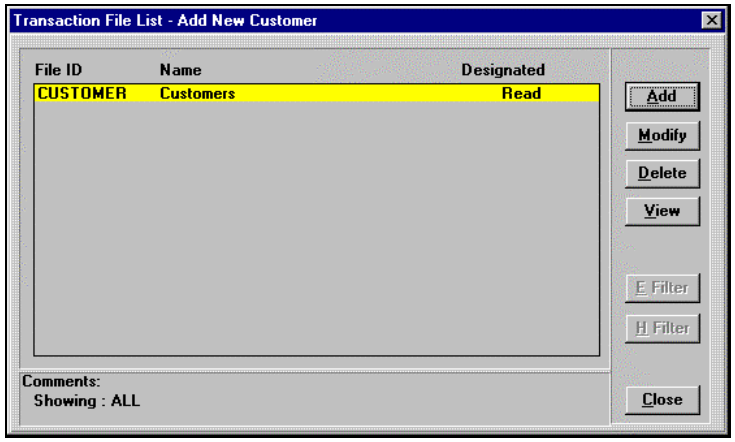
7. In the **System List** dialogue box, press the Select key to enter the highlighted System File into the **Count File List**.

*The **CUSTOMER** file is entered in the Count File List.*



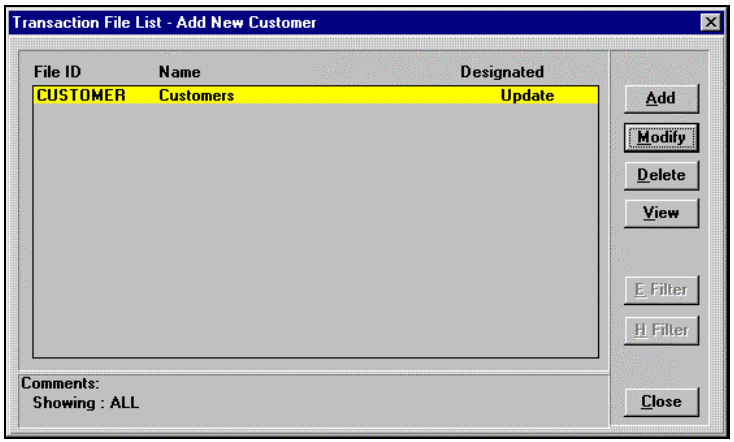
8. In the **Count File List** dialogue box, press the **Select** key to enter the highlighted **Count File** into the **Transaction File List**.

*The **CUSTOMER** file is entered in the Transaction File List*



9. In the **Transaction File List**, select the **Modify** key in order to toggle the **Designated** Access to **Update**.

*The **Designated** access now reflects that the Add New Customer transaction updates the Customer file.*



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10. Select **Close** to return to the **Classify Transaction** dialogue box.

    The CUSTOMER file is now linked to the ***Add New Customer*** *transaction.*

11. In the **Classify Transaction** dialogue box, select **Ok** to return to the hierarchy.

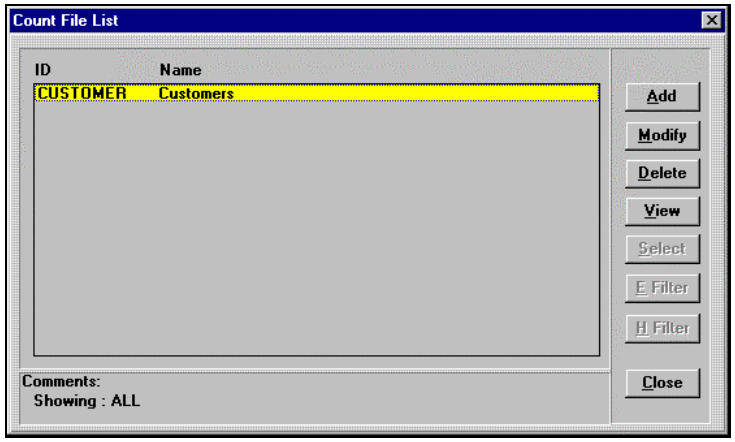
    The Link Files option may be used in each transaction in the hierarchy to record the files used by the transactions.

12. As an exercise, link each **CUSTOMER** transaction to the **CUSTOMER** file.

To link a Logical File to a group of Transactions

For this Tutorial Exercise, you will link the **ORDERS** file to the group of transactions which ***update*** the file.

1. Select **Function Point Counting**, then select **Count Files** to display the list of Files already used in the count.



2. Add the **ORDERS** file to the Count File List, as in the previous exercise, and return to the hierarchy display.

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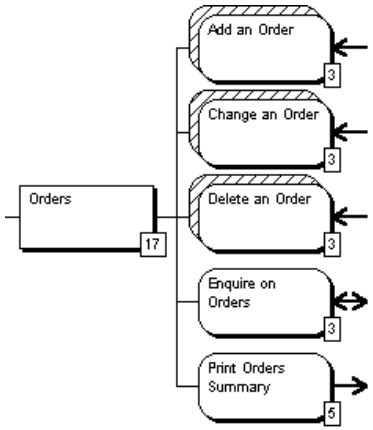
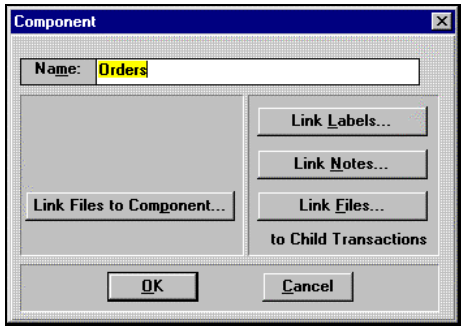
3. Directly highlight the Transaction **Add an Order** by holding down the **Ctrl** key while selecting the **Add an Order** Transaction (single-click). Repeat this process for **Change an Order** and **Delete an Order.**

   A highlight will be added to each of the selected Transactions.



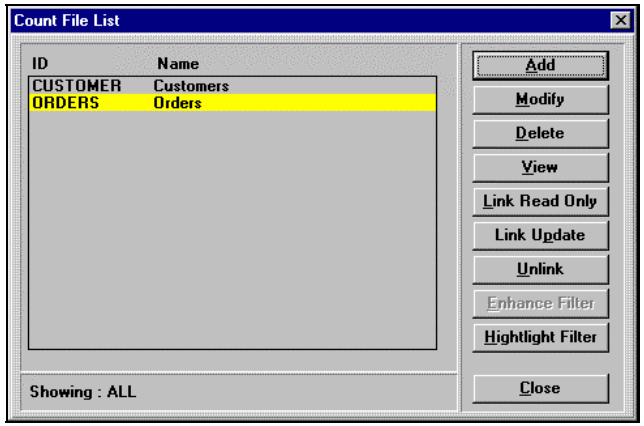
4. Enter the **Orders** component.

   The Component dialogue box is displayed.

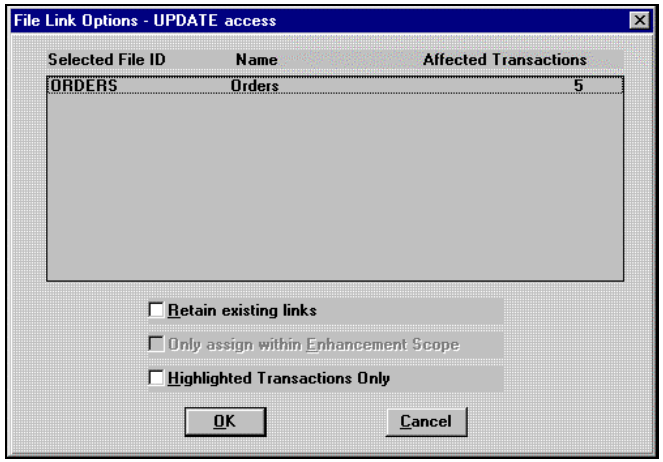


5. Select **Link Files (to Child Transactions)**.

   This dialogue allows you to link the selected Files to the Transactions below the hierarchy Component node used to enter this dialogue. In this example, you will link to the Transactions below the Orders node in the hierarchy. The Transactions can be linked as ***Read Only*** *or* ***Update****.*



6. Select the File **ORDERS** and select **Link Update**.



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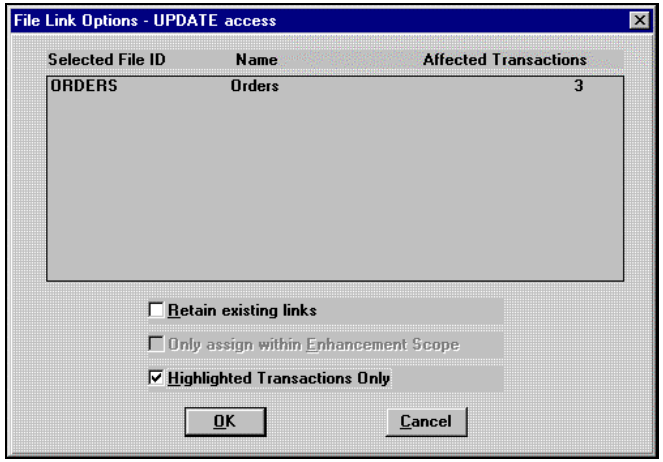
*The **File Link Options** dialogue is now displayed. This dialogue allows you to further constrain your File assignment as follows:*

☒ ***Retain existing links*** *- If checked, indicates that, if the File is already assigned to the Transaction, the access type will not be altered.*

☒ ***Only assign within Enhancement Scope*** *- If checked, indicates, in an Enhancement Project count, that File assignment is only to child Transactions within the scope of the Enhancement. If not checked, will be assigned to all child Transactions.*

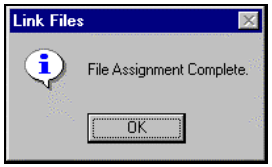
☒ ***Highlighted Transactions Only*** *- If checked, indicates that Files will only be assigned to highlighted 'child' Transactions.*

7. Check the box **Highlighted Transactions Only** and note how the number of Transactions to be affected by the assignment changes to include only those highlighted in the hierarchy.



8. Select **Ok** to assign the File **ORDERS** to the selected highlighted Transactions.

   The message File Assignment Complete indicates successful assignment.



9. **Close** to return to the **Component** dialog and **Ok** to return to the hierarchy. Enter **Add an Order** and use **Link Files** to view the impact of the group assignment.

10. Return to the hierarchy. Use **View Options / Clear Highlighting** to clear the highlighting from the Transactions.

    *You could also have cleared the highlighting from each individual Transaction using the same method as you used to highlight them i.e. by holding down the **Ctrl** key while selecting the Transaction (single-click). This direct method of highlighting works as a 'toggle'.*

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Displaying the Function Point Size

The **Unadjusted Function Point Size**, **Value Adjustment Factor**, **and Adjusted Function Point Size** are available at any time while a Count is open. Function Point Sizes can be evaluated for the whole application, or for individual components or logical transactions. The WORKBENCH main menu **Reporting** option provides a simple way to obtain Function Point Counts.

To display the function point size of a count

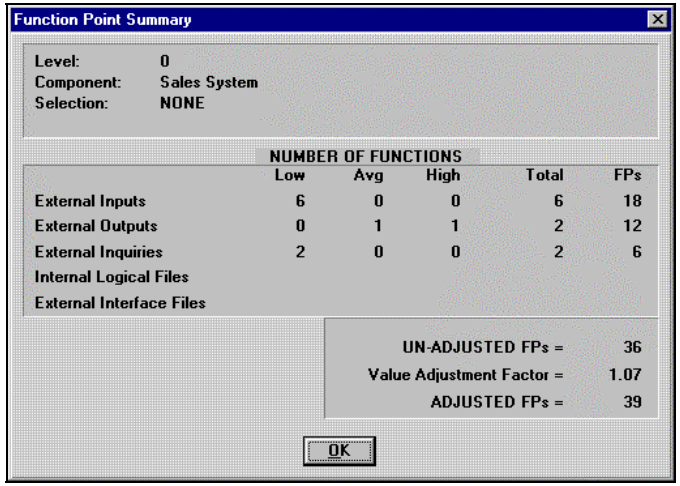
1. In the WORKBENCH first highlight the **Root Node** component. (Click on the Root Node once to highlight it.)

   *Reports and Function Point Counts in the WORKBENCH are produced **in relation to** the highlighted node.*

2. Select the **Reporting** main menu option.

3. Select **Display Summary - without Files...**

*The **Summary Report** is displayed and shows a breakdown of the Function Point Count for that application for the Transactions that have been classified.*



4. Select **Ok** to return to the hierarchy.

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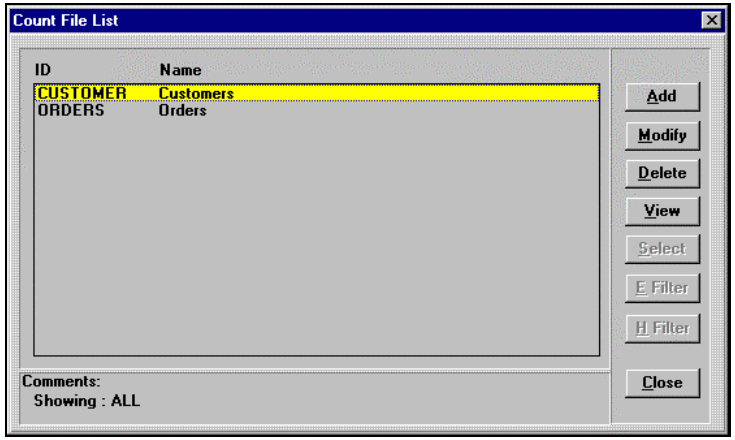
Classifying Logical Files

You will classify the Logical files in the *WORKBENCH* using the **Count Files List**.

To classify a logical file

1. In the main menu, select **Function Point Counting**, then select **Count Files**.

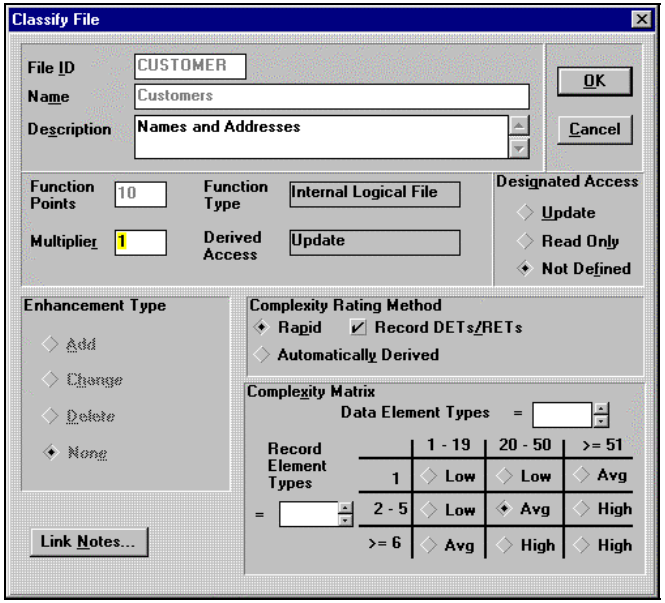
The Count Files List is displayed.



Here you select a file for classification as an Internal Logical File, or an External Interface File.

2. Highlight the **CUSTOMER** File, then select **Modify**.

The Classify File dialogue box is displayed.



*Notice in this example that the **CUSTOMER** file has a **Derived** access of **Update**. This is the access derived as a result of the Link Files option - this means the **CUSTOMER** file had **been linked to a transaction and recorded as a file updated by this application**.*

In this dialogue box you will assign the file complexity, or record the Designated access if the file had not been linked in a 'lower' level operation.

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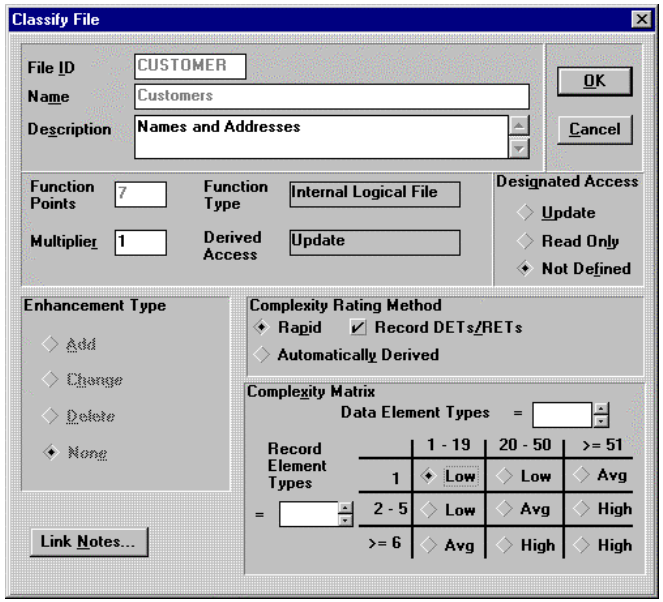
3. For this exercise, select the **Rapid** Complexity Rating Method and directly select the complexity of the file in the matrix as a **LOW** complexity file with **1-19 Data Element Types** and **1 Record Element Type**.



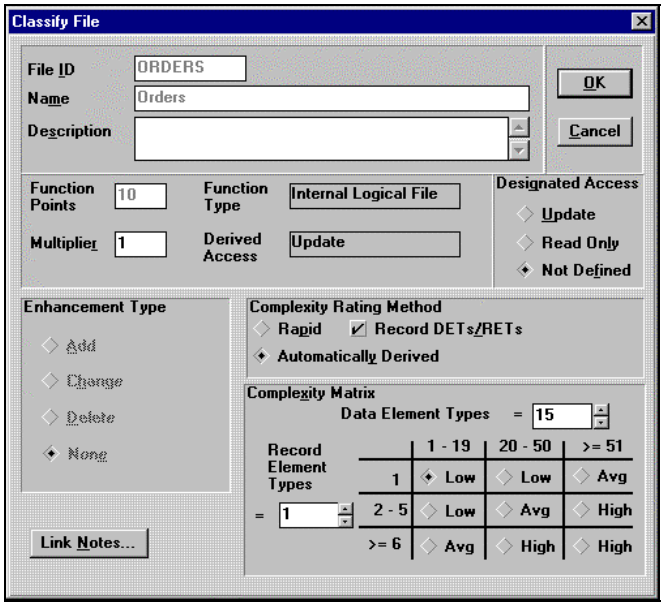
*You can also use the **Automatically Derived** Complexity Rating method to record file complexity in this dialogue.*

*You may enter documentary notes related to the file by using the **Link Notes** Option.*

4. Select **Ok** to return to the **Count Files List**.

5. Select **Close** to return to the hierarchy.

6. As a further exercise, record the complexity of the **ORDERS** file. Use the **Automatically Derived** Complexity Rating Method with **15 Data Element Types** and **1 Record Element Type** to effectively assign **LOW** complexity.



7. You can now view the Function Point Count including files, from the main menu under **Reporting**, then **Display Summary - with Files**.

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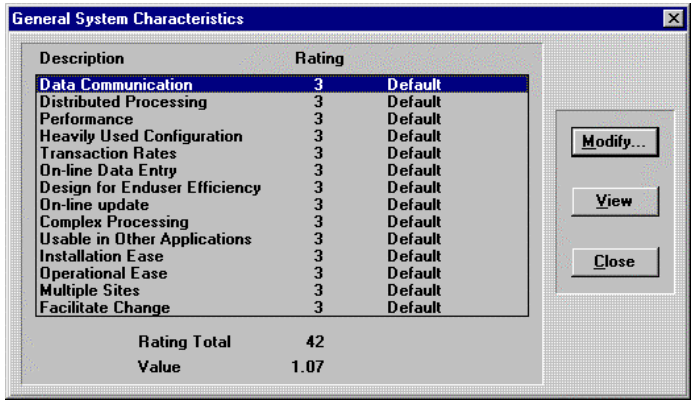
Entering the Value Adjustment Factor

To enter the general system characteristics

1. From the main menu, select **Function Point Count**. Then select **Value Adjustment Factor**.

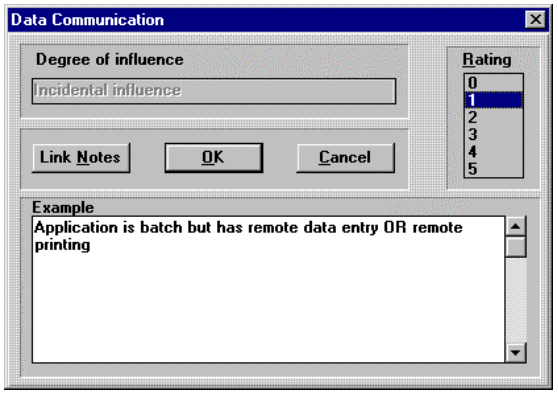
   The General System Characteristics dialogue box is displayed.



   *You can see that each **GSC** is individually listed with a default value and can be Viewed or Modified.*

2. In the **General System Characteristics** dialogue box, highlight the **Data Communications GSC**, then select **Modify**.

   *The **Data Communications** dialogue box is displayed.*



*The **Rating**, the **Degree of Influence**, and an **Example** of that Degree of Influence are clearly displayed.*

*A **Link Notes** option exists to allow you to link documentary notes to the current Characteristic Rating.*

3. As an exercise, select a different ***Rating*** to the one highlighted.

   *The **Degree of Influence** and its **IFPUG Example** **change** to reflect the different Rating chosen.*

4. For this Tutorial Exercise, select **Ok** to return to the **Data Communications** GSC, then select **Close** to return to the **General System Characteristics** dialogue box.

5. Finally in the **General System Characteristics** dialogue box, select **Close** to return to the functional hierarchy.

   The Function Point Count which includes the Value Adjustment Factor may now be obtained.

6. Use the main menu **Reporting**, the **Count Summary with Files**, in order to see the total Function Point Count.

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Completing a Count

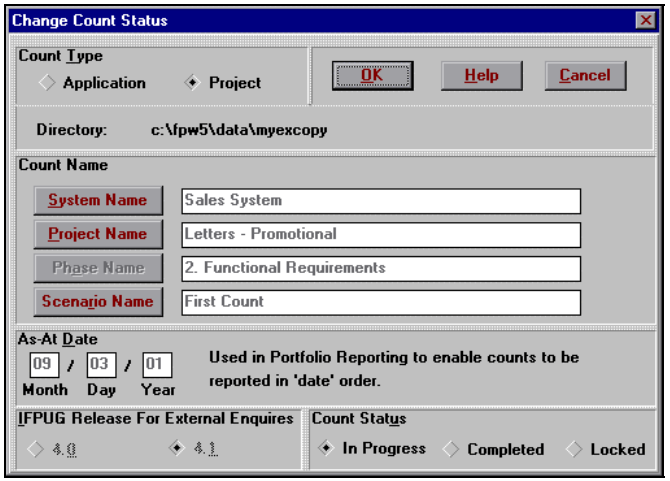
You have now completed entering the essential data for a very simple count for a Development Project. To indicate that the count is complete, you can change its status from **In-Progress** to **Completed**.

This function allows you to choose to run a series of checks on your count to ensure its completeness.

To change the status of the count to Completed

1. From the *WORKBENCH* main menu, select **Function Point Counting**, then select **Change Count Status.**

   The Change Count Status dialogue box is displayed.



   This dialogue displays the name of the current count, its Count Type and its current Status. From here you may select to change the status.

2. For this Tutorial Exercise, you will change the status of the current count. In the **Change Status** dialogue box, select **Completed**, then select **Ok**.

   A Changing Status dialogue box is displayed..

Changing Status to "Completed"
Check that:
All Transactions are Classified
All Files are Defined
All Mandatory Labels are in the Count Label list
All Transactions have been assigned Mandatory Labels
All Transactions have been assigned Optional Labels
Ok
Cancel

   *This dialogue box allows you to select from a number of checks which will be made **before** the count is recorded as **Completed**.*

   *By default, all checkboxes are selected. Use **F1** context sensitive Help for a description of the Completeness checks available.*

3. For this exercise, check the ***first two*** checkboxes as shown above.

   The Workbench inspects the count in relation to the items flagged in the checklist and reports on any discrepancies.

   When a discrepancy is found, Change Count Status window is displayed and you have the option to address that discrepancy, 'Skip' it and continue the inspection, or Cancel the inspection.

4. Select **Ok** to start the checklist processing.

   When the checklist has successfully ended, a confirmation message is displayed.

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Updating the System Master

When a Project Count *has been completed*, it may be used to create an Application count called the **Application Master**.

The Application Master count represents the software as it is implemented in production. It can be used as a base for sizing Enhancement Projects.

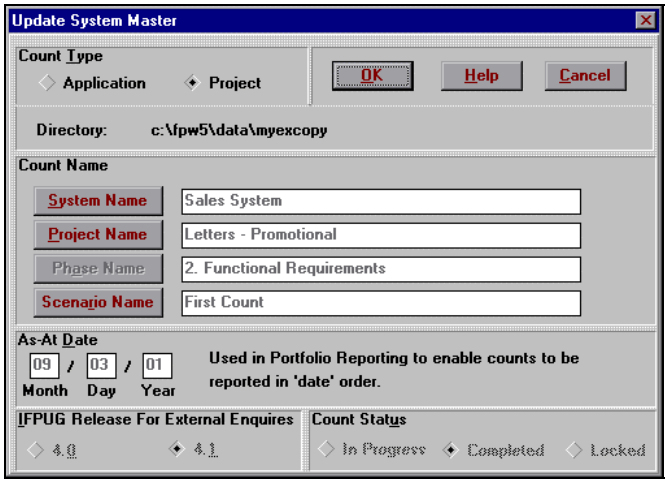
You will use the **SALES SYSTEM** Project Count for this exercise.

Remember that the Count ***must first be completed*** by changing the Status of the Count as in the previous topic.

To update the system master

1. From the *WORKBENCH* main menu, select **Function Point Counting**, then select **Update System Master.**

   The Update system Master dialogue box is displayed.



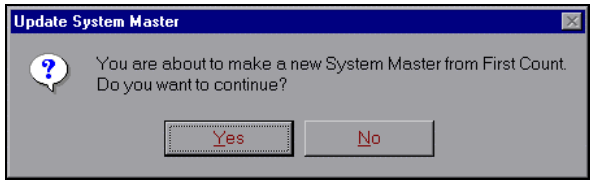
This dialogue displays the name of the last loaded count, its Count Type and its current Status.

From here, you may select the name of another count, or use this count to Update the System Master.

Only counts which have been assigned the ***Completed*** *count Status may be used to Update the Master Application.*

2. In the **Update System Master** dialogue box, select **Ok** to begin the update master process.

An Update System Master message is displayed to confirm the update process.



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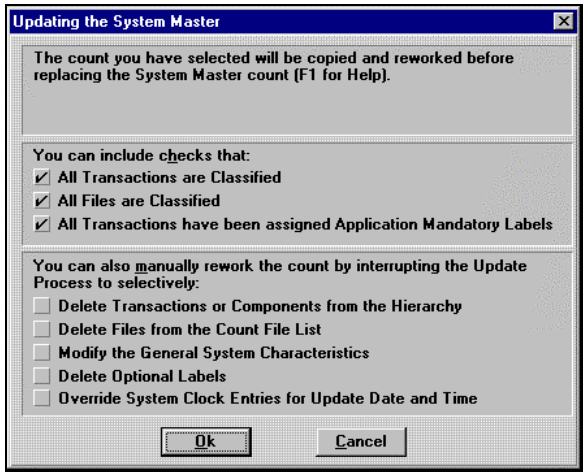
3. For this Exercise, select **Yes** to confirm the update process.

4. You will be asked to enter the Scenario Name for the new System MASTER.

For this exercise, enter a name of **MASTER End <current month>** e.g. MASTER End August and select **OK**.

5. An Updating the System Master checklist is displayed.


Updating the System Master
The count you have selected will be copied and reworked before replacing the System Master count (F1 for Help).
You can include checks that:
All Transactions are Classified
All Files are Classified
All Transactions have been assigned Application Mandatory Labels
You can also manually rework the count by interrupting the Update Process to selectively:
Delete Transactions or Components from the Hierarchy
Delete Files from the Count File List
Modify the General System Characteristics
Delete Optional Labels
Override System Clock Entries for Update Date and Time
Ok
Cancel

This contains a checklist of items which may be flagged in order to ensure the completeness of the count before the update process.

It also provides an opportunity of reworking the Project Count before using it to create / replace the System Master.

*Use **F1** context sensitive Help for a description of the options available.*

4. For this exercise, ***flag the first two items*** in the checklist as shown in the diagram above.

   The Workbench inspects the count in relation to the items flagged in the checklist and reports on any discrepancies.

   When a discrepancy is found, an Update System Master window is displayed and you have the option to address that discrepancy, skip it and continue the inspection, or Cancel the inspection.

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5. Select **Ok** to start the checklist processing.

   When the checklist has successfully ended, a confirmation message is displayed.

As a result of the Update System Master process, the WORKBENCH now contains two **SALES SYSTEM** Counts:

– The original **SALES SYSTEM** completed Project Count named

Sales System
Letters - Promotional
2. Functional Requirements
First Count

– The **SALES SYSTEM** Application Master Count named

Sales System
-
-
MASTER End <month>

This is the end of Tutorial 2. To close this count, select **Function Point Counting / Close Count**.

You can now exit the WORKBENCH™ or proceed to Tutorial 3.

END OF TUTORIAL 2

5 TUTORIAL 3: Exploring an Enhancement Count

Introduction and Overview

This Tutorial leads you through the important features of Enhancement Counts in the FUNCTION POINT WORKBENCH™. Here you can work systematically through the operations of the WORKBENCH.

After completing Tutorial 3, you may choose to move on to Tutorial 4, or to explore the features of the WORKBENCH using this Tutorial as a guide.

This Tutorial assumes that you have already completed Tutorials 1 and 2.

For this Tutorial Exercise, you will explore the features of the WORKBENCH in relation to an existing Enhancement Count.

The Count is named:

System Name:	**Requisition Rejection System**
Project Name:	**Enhanced Reporting Oct 2000**
Phase Name:	**2. Functional Requirements**
Scenario Name:	**Phase II Rpts**

The count is for an Enhancement Project for the **Requisition Rejection System**. The project is called **Enhanced Reporting Oct 2000**. The Project Life Cycle is at **Functional Requirements**. The Scenario Name is **Phase II Rpts**.

Topics in this Tutorial

- Opening a Count for an Enhancement Project
- Indicating the Scope of the Enhancement Project
- The Value Adjustment Factor
- Displaying a Function Point Count for an Enhancement Project

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Opening a Count for an Enhancement Project

To open a count for an Enhancement Project

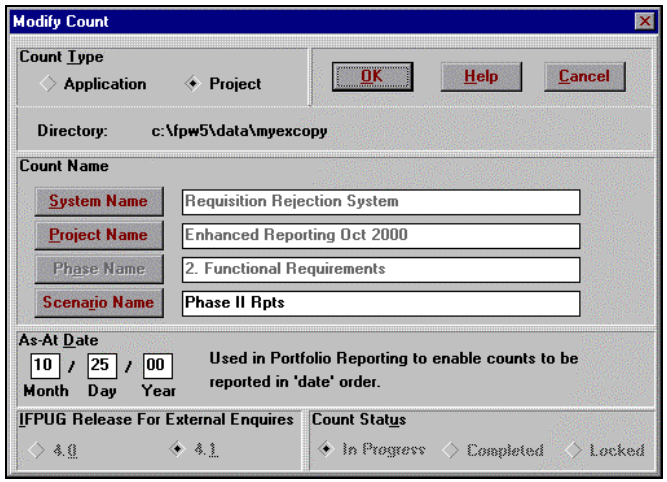
1. If necessary, start FUNCTION POINT WORKBENCH™ and enter your password and change to the directory where you have your copy of the **Example** database.

   The CHARISMATEK logo and main menu are displayed. From here you are able to carry out all Function Point Counting operations.

2. From the main menu, select the **Function Point Counting** menu option, then select **Modify Count**.

   *The Workbench displays the **Modify Count** dialogue box..*

3. In the **Modify Count** dialogue box, enter the full name of the Count as shown below. Use **F1** for context sensitive Help or refer to Tutorial 1 to remind yourself how to select a Count by Name.



The full name of the Enhancement Count to be modified is entered.

4. Select **Ok** after you have entered the full name of the Count.

The Count hierarchy for the Enhancement Project is displayed. This diagram shows a small segment of the hierarchy.

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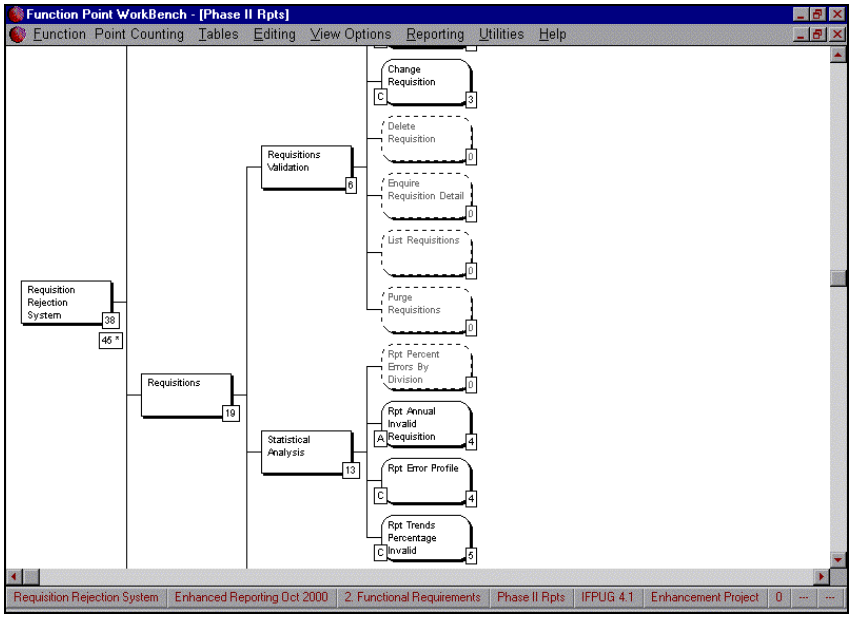


*An Enhancement Project changes **an existing application** system. This means that the changes made as a result of the Enhancement Project are displayed and analysed **relative** to the **Base** application count which represents the application being changed.*

*The hierarchy above clearly shows the **Base Count** with two types of transactions.*

- *The transactions with a **broken outline** are the transactions in the application which are **not impacted** by the Enhancement Project.*

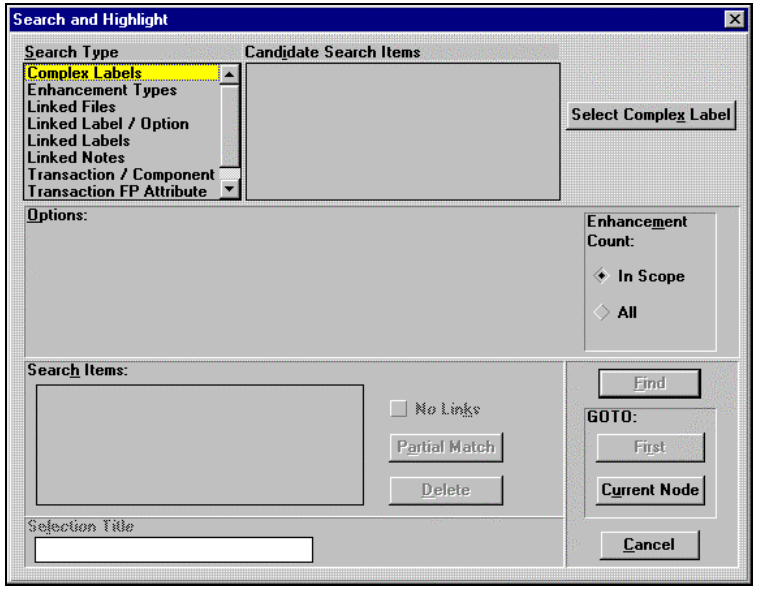
- *The transactions with a **dark outline** are **impacted** by the Enhancement Project.*

Indicating the Scope of the Enhancement Project

To view the Scope of the Enhancement Project in terms of the Transactions impacted.

1. As an Exercise, from the main menu, select **ViewOptions,** then **Search & Highlight.**

The Search and Highlight dialogue box is displayed.



From here, we will search for Transactions which are 'changed' by this Enhancement Project.

Notice the Option headed Enhancement. This Option is available in all Searches in any count for an Enhancement

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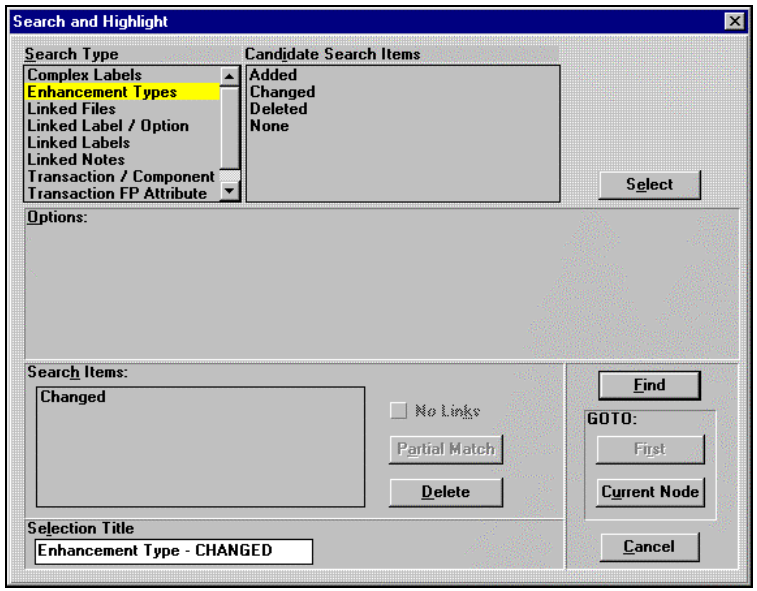
Project. It allows you to either limit your search to Transactions within the scope of the Enhancement ***(In Scope)*** *or to search all Transactions including the base Application* ***(All).***

2. As an Exercise, select (highlight) a **Search Type** of **Enhancement Type.** In the resultant **Candidate Search Items** list, select **Changed** for the **Search Item**, either by highlighting the item and double-clicking or using **Select.**

   Before initiating the Search using **Find**, change the **Selection Title** to: **Enhancement Type - CHANGED**.



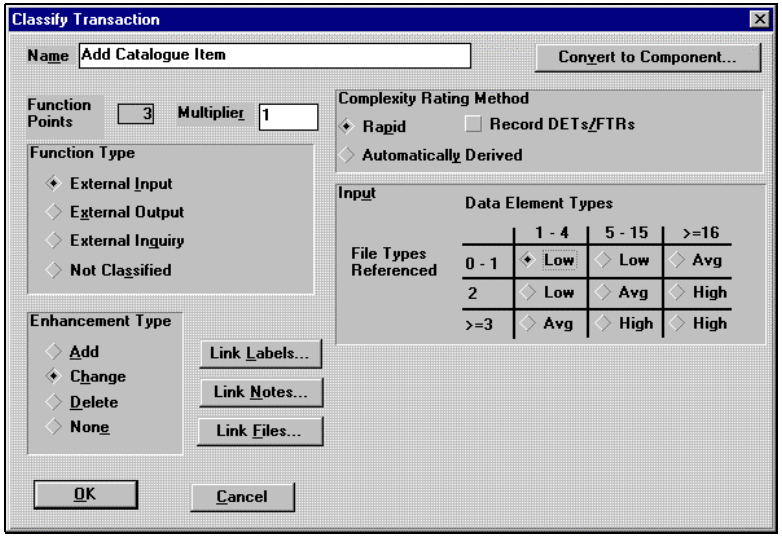
3. Use **Find** to find the Transactions with an Enhancement type of Changed and use **GOTO First** to exit and go to the first highlighted Transaction - **Add Catalogue Item**.

Notice that the Transaction node has the letter **C** *in the lower LHS corner. This indicates that this Transaction is* **Changed** *by this Enhancement Project.*

Notice that the Selection Title is in the Status Bar to describe the highlighted selection.

4. Enter the Transaction **Add Catalogue Item**.

The Classify Transaction dialogue box is displayed.



Notice that the Change button for the Enhancement Type is selected. This is how the WORKBENCH is used to indicate how this Enhancement impacts this Transaction.

5. As an exercise, select **None** to indicate that this Transaction is not affected by the Enhancement.

Notice that the ***Function Type*** *and* ***Complexity*** *matrix are protected if the Transaction is not impacted by the Enhancement.*

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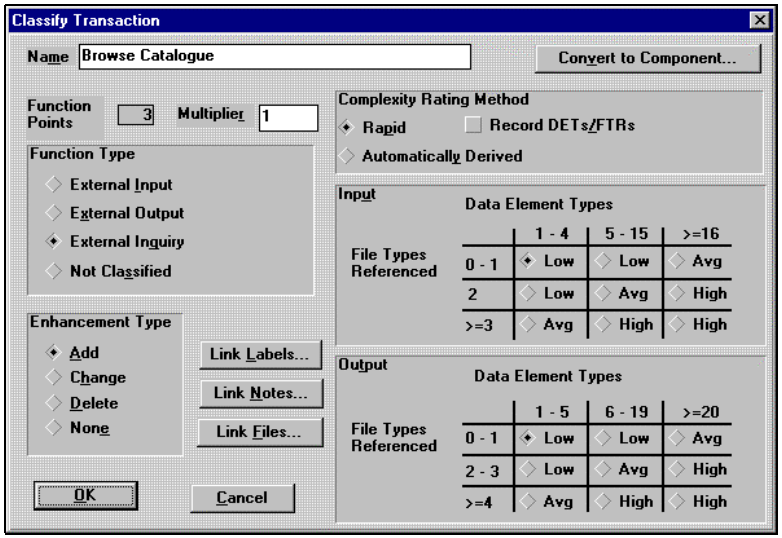
6. Exit this dialogue using **Ok** to enter the change into the database.

Notice that the outline of the Transaction ***Add Catalogue Item*** *is now 'broken' to indicate that it is outside the scope of the Enhancement and the* **C** *is no longer attached to the node.*

7. Re-enter the Transaction and re-instate its Enhancement Type to Changed. Exit the dialogue using **Ok** to enter the change into the database.

8. Move to the first Transaction within the scope of the Enhancement but which does not have an Enhancement Type of Changed. This is the Transaction called **Browse Catalogue.** Enter this Transaction.

The Classify Transaction dialogue is displayed.



Notice that this Transaction has an Enhancement Type of ***Add****. This Transaction has been added by this Enhancement.*

9. Exit the dialogue.

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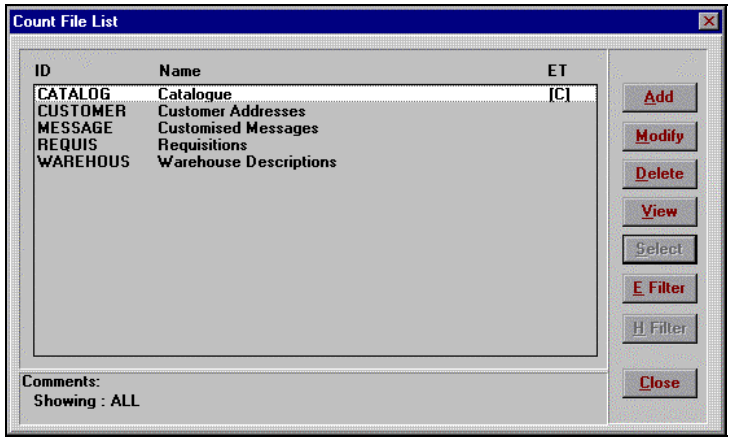
To view the Scope of the Enhancement Project in terms of the Files impacted.

1. From the main menu, select **Function Point Count**, then select **Count Files**.

   The Count File List is displayed. This list shows all the Files in the count for the Base Application.



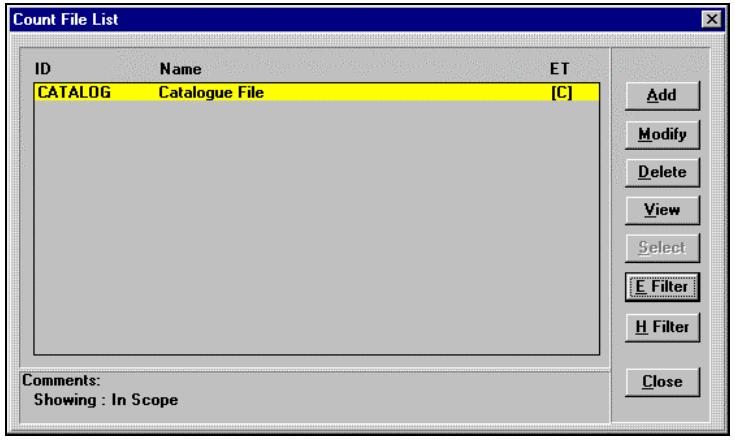
*In this example, the Enhancement Project impacts the **CATALOG** file.*

*The impact on the CATALOG file is recorded as a **Change** [C] to the file.*

*Notice the Comment at the bottom of the display stating **Showing: All**.*

2. As an exercise, press button labelled **E Filter.** This stands for **Enhancement Filter**.

   Only those list of Files impacted by the Enhancement are now displayed



   Notice the Comment at the bottom of the display stating ***Showing: In Scope***.

   The ***E Filter*** *button allows you to 'toggle' between the two lists.*

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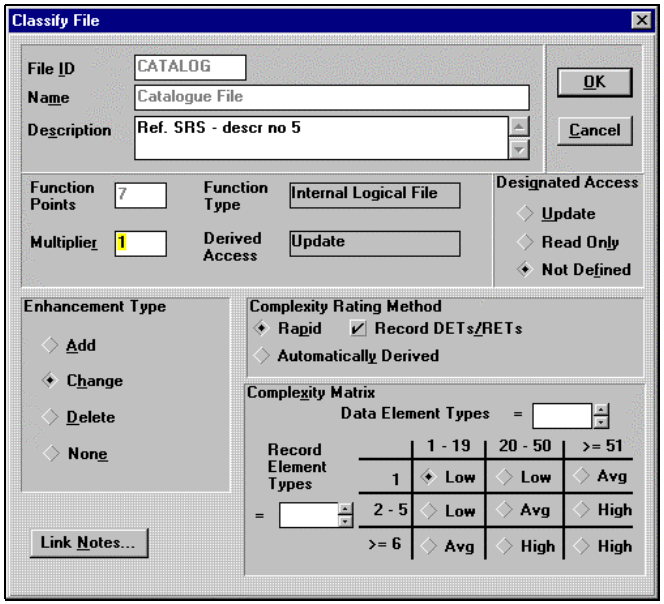
3. For this Exercise, in the **Count Files List**, highlight the **CATALOG** file, then select **Modify**.

   *The **Classify File** dialogue box is displayed.*



   *In this example, the Enhancement Type shows that the CATALOG file has been **Changed** as a result of the enhancements.*

   The Enhancement Type in the File dialogue is used to indicate the impact of the Enhancement Project on the file.

4. Select **Cancel** to return to the **Count File List**, or **Ok** to save any changes you may have made.

5. Select **Close** to return to the functional hierarchy.

The Value Adjustment Factor

In an Enhancement Project Count, you may select any **General System Characteristic**, and change it to reflect the impact of the GSC as a result of the Enhancement Project.

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Displaying a Function Point Count for an Enhancement Project

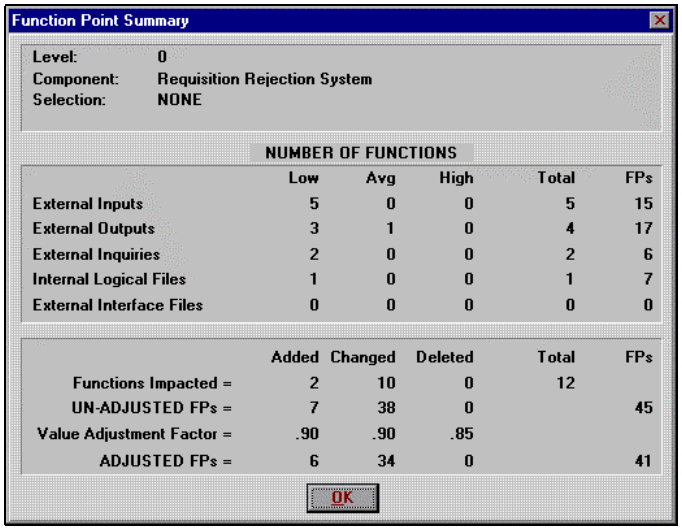
The *WORKBENCH* Summary Report will display the Function Point Count in relation to the highlighted component or transaction.

For this Exercise, you must first highlight the Root Node in order to obtain a count of the whole application.

Second, clear the Selection of **Changed Transactions** by using to **ViewOptions /Clear Highlighting**.

1. Select **Reporting**, then select **Display Summary with Files**.

*The **Function Point Summary** Report is displayed.*


Function Point Summary
Level: 0
Component: Requisition Rejection System
Selection: NONE
NUMBER OF FUNCTIONS
Low Avg High Total FPs
External Inputs 5 0 0 5 15
External Outputs 3 1 0 4 17
External Inquiries 2 0 0 2 6
Internal Logical Files 1 0 0 1 7
External Interface Files 0 0 0 0 0
Added Changed Deleted Total FPs
Functions Impacted = 2 10 0 12
UN-ADJUSTED FPs = 7 38 0 45
Value Adjustment Factor = .90 .90 .85
ADJUSTED FPs = 6 34 0 41
OK

In this Report, the Enhancement Function Point Count is detailed. For this example, the ***size*** *of the Enhancements is* ***41 Adjusted Function Points****.*

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This is the end of Tutorial 3. To close this count, select **Function Point Counting / Close Count**.

You can now exit the WORKBENCH™ or proceed to Tutorial 4.

END OF TUTORIAL 3

6 TUTORIAL 4: Creating an Enhancement Count

This Tutorial introduces the basic functions and features of creating a new Enhancement Project Count within the FUNCTION POINT WORKBENCH™.

> ***This Tutorial assumes that you have already completed Tutorials 1, 2 and 3.***

After completing this Tutorial, you should study the FUNCTION POINT WORKBENCH™ User Manual to gain a better understanding of the functionality available to you.

Topics in this Section

Creating Enhancement Function Point Counts
Editing Transactions
Linking Labels, Notes and Files to a Transaction
Editing Files
Altering the Value Adjustment Factor
Completing a Count
Updating the Application Master

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Creating an Enhancement Count

An Enhancement Project Count in the WORKBENCH may be based on an existing Application Count, as shown in Tutorial 3.

For this Tutorial Exercise, you will use the existing count created in Tutorial 2 for the **SALES SYSTEM**.

*Special Note: In order to carry out this Tutorial, you will have completed the exercises in Tutorial 2. You will also have Classified all transactions and files within the **SALES SYSTEM** Count, and created the **SALES SYSTEM Application MASTER**.*

To create an enhancement count

1. If necessary, start *Function Point WORKBENCH* and enter your password.

   The CHARISMATEK logo and main menu are displayed. From here you are able to carry out all Function Point Counting operations.

2. From the main menu, select **Utilities**, then select **Change Directory** and select your **Example** directory.

   This is the directory in which you will create a Function Point Count as a Tutorial Exercise.

3. From the main menu, select the **Function Point Counting** menu option, then select **Create Count**.

   The Workbench displays the Create Count dialogue box.

4. In the **Create Count** dialogue box, *first* select the Count Type of **Project** to create a Project Count.

5. Select the **System Name** button.

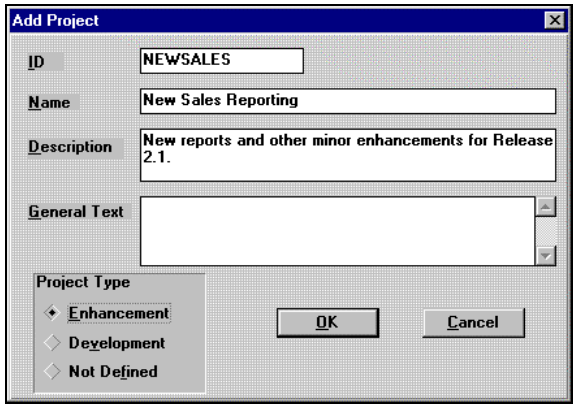
   The Workbench displays the System List dialogue box.

6. For this exercise you will use an existing System Name. Therefore, from the System List, select the **Sales System**.

   The System Name is displayed in the Create Count dialogue box as shown in the diagram above.

7. In the **Create Count** dialogue box, select the **Project Name** button then select **Add** to record a new **Project Name.**

   The Add Project dialogue box is displayed.



In the diagram above, the new Project Name has been entered.

Notice that the Project Type is **Enhancement**.

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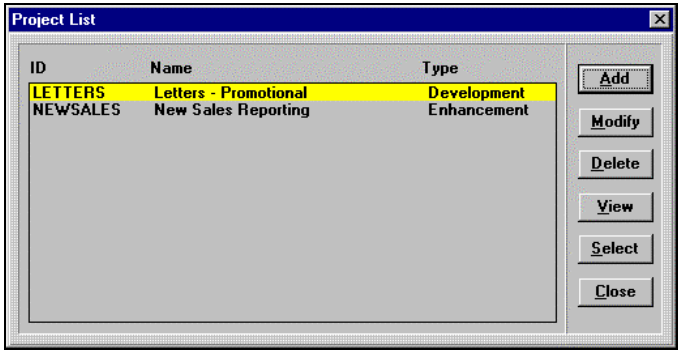
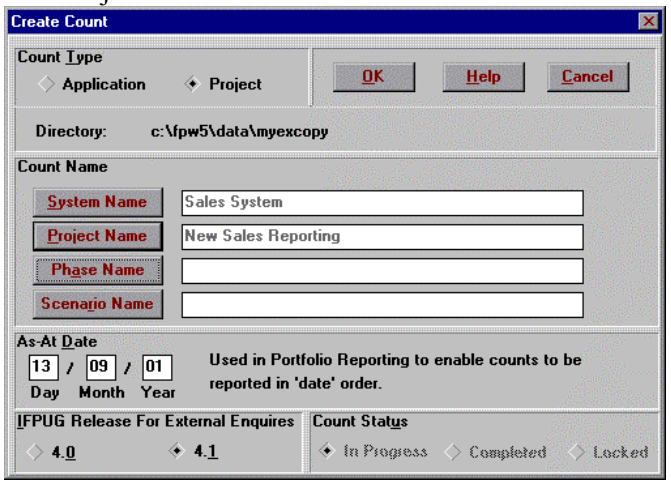
8. For this Exercise, enter the details as shown above, then select **Ok** to return to the Project List dialogue box.



The Project List is displayed with the new Enhancement Project name.

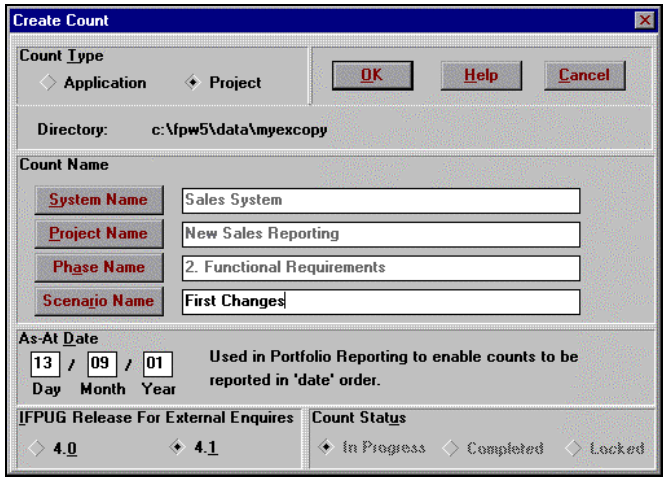
9. Highlight the newly added Enhancement Project and use the **Select** option to return to the **Create Count** dialogue box with the new Project Name.



10. In the **Create Count** dialogue box, select the Phase Name button, then select the **Functional Requirements** phase.

11. In the **Create Count** dialogue box, enter the **Scenario** name directly in the space provided. For this Exercise, type the Scenario Name ***First Changes***.

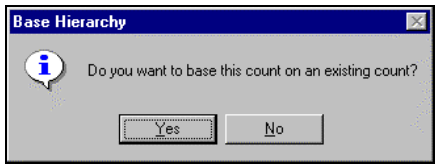
    The Create Count dialogue box now displays the full name of the count.



    The new name of the Enhancement Count is now complete.

12. Select **Ok** to create the count.

    The Base Hierarchy confirmation box is displayed.



    From here you may select to base the Enhancement Count on an existing application. For this Case study, the Enhancement Count will be based on the Sales System Master Application Count.

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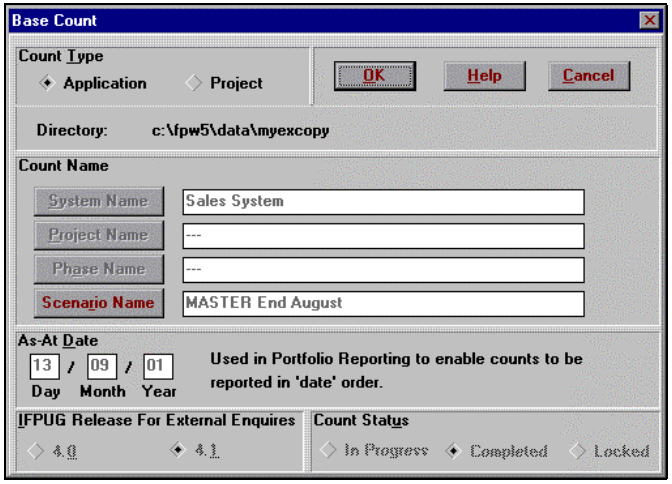
13. In the **Base Hierarchy** dialogue box, select **Yes**.

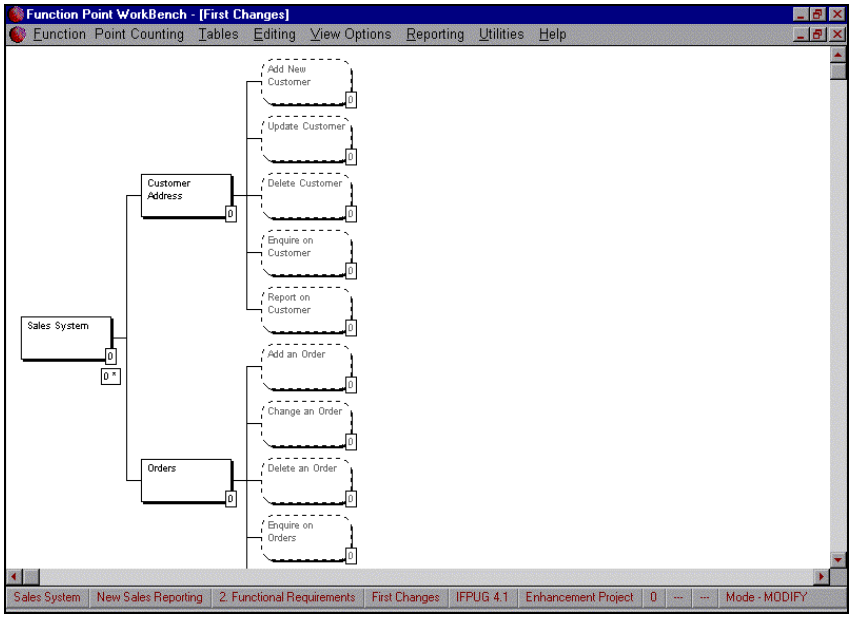
    The Base Count dialogue is displayed. This is where the name of the base count is entered.

14. In the **Base Count** dialogue box, select the **Application** Count Type button and select the **MASTER** Scenario. Select **OK** to create the new count.

    In the lists of counts available for selection as Base Counts, only Application Counts will be available because we have selected a Count Type of **Application.**



The Application Count named ***Sales System / - / - / MASTER End <month>*** *that you created in Tutorial 2 will be copied as the base of the Enhancement Project Count.*



The Base Application hierarchy is displayed showing all existing functions with a broken outline.

From here, you may add, change or delete transactions or files as well as changing the General System Characteristics.

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Editing Transactions

In an Enhancement Count which has been based on an existing application, transactions may be added to the base count, or existing transactions may be modified or deleted.

For this Tutorial Exercise, you will add a new transaction - ***List Customers by City***. You will also modify existing base count transactions and files.

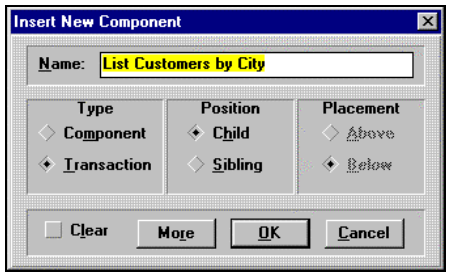
To add a new transaction

1. Highlight the component to which the new transaction will be added. For this exercise, highlight the ***Customer Address*** component.

2. From the main menu, select **Editing**, then select **Add**. Alternatively, press the **Insert** key.

   The Insert New Component dialogue box is displayed.

3. For this exercise, enter the transaction name ***List Customers by City***, which will be a transaction child of the highlighted component.



4. Select **Ok** to add the transaction to the component.

   The new transaction is inserted in the functional hierarchy. Notice that the new Transaction has a solid outline and an **A** *attached to the lower LHS corner of the node, indicating an Enhancement Type of Add.*

5. The new transaction will need to be classified. Select the new ***List Customers by City*** transaction.

   The Classify Transaction box is displayed. From here you select the Function Type and Complexity of this transaction.

   From here you may also use the relevant options to Link to Labels, Notes and Files. (Refer to Tutorial 1 for further information on Link Options.)

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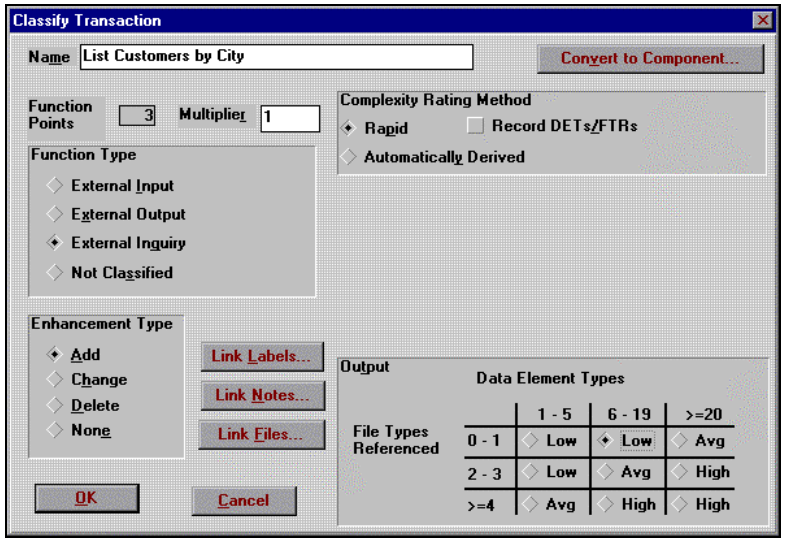
6. For this exercise, select the **External Output** Function Type, and a **Low** Complexity rating.



*Notice that the Enhancement Type is automatically assigned as **Add**.*

7. Select **Ok** to update the database with the data used to classify the Transaction and return to the functional hierarchy.

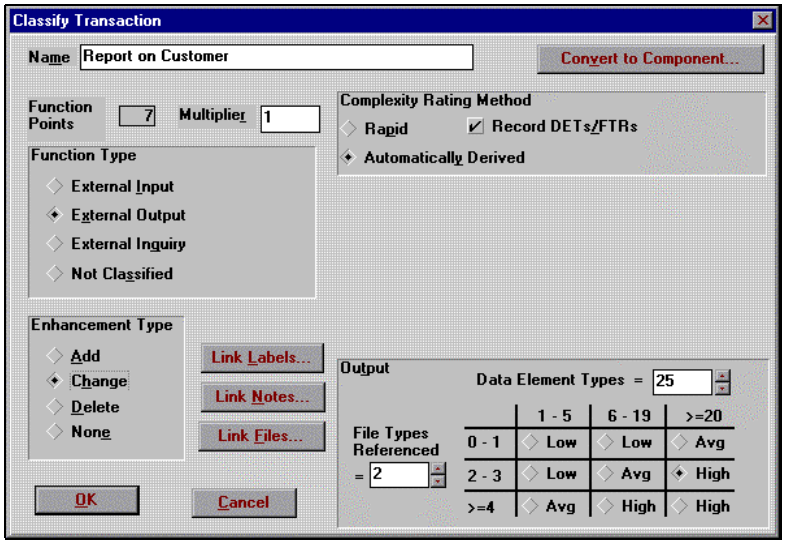
To change a transaction

For this Tutorial Exercise, you will modify existing transactions in order to reflect the requirements specified by the Enhancement Project.

First you will modify the **Report on Customer** transaction.

1. Select the transaction to be modified. In this case, select the **Report on Customer** transaction.

   The Classify Transaction dialogue box is displayed. From here, the changes can be applied.



   In this dialogue box, you must first select the Enhancement Type. Then make the necessary changes to the classification.

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2. Select the **Change** Enhancement Type. For this exercise, the **Complexity** rating will *not be changed*.

   Remember that while changes are to be made to the transaction, there will not necessarily be a change in complexity rating.

4. Select **Ok** to return to the hierarchy.

   The transaction has a dark outline - indicating a transaction within the scope of the Enhancement Project.

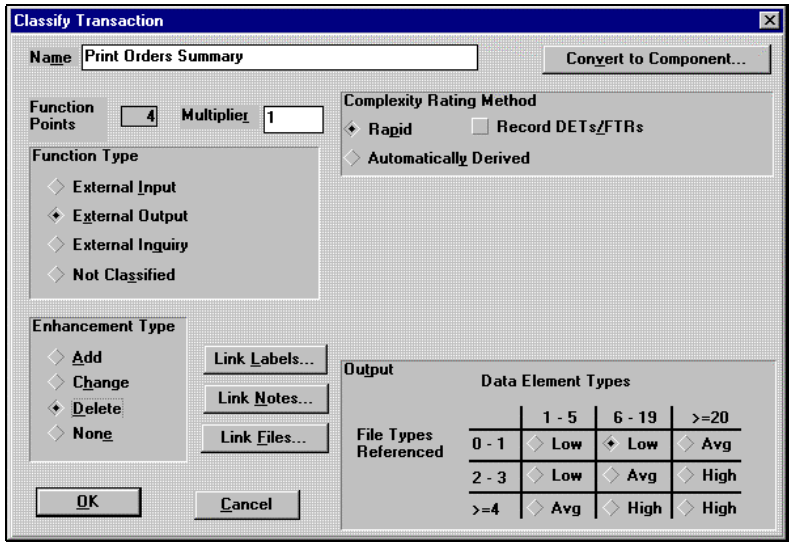
To delete a transaction

Transactions which are to be deleted as a result of the Enhancement Project, are *flagged* as deleted. They are not removed from the hierarchy as they contribute to the size of the Enhancement Project.

For this exercise you will choose the **Print Orders Summary** transaction and flag it as a **Deleted** transaction.

1. First select the transaction to be changed: the **Print Orders Summary** transaction.

   The Classify Transaction dialogue box is displayed..



   Since this is a Delete Enhancement Type, the other details of the classification need not be modified.

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2. For this exercise, select the **Delete** Enhancement Type.

3. Select **Ok** to save the changes and return to the functional hierarchy.

   *In the functional hierarchy, the **Print Orders Summary** transaction is displayed with a dark outline to indicate it is within the scope of the Enhancement Project.*

Linking Labels, Notes and Files to a Transaction

Transactions in a count for an Enhancement Project are linked to Labels, Notes and Files in the same way as Project Development Counts or Application Counts.

Refer to Tutorial 2 as a reminder.

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Editing Files

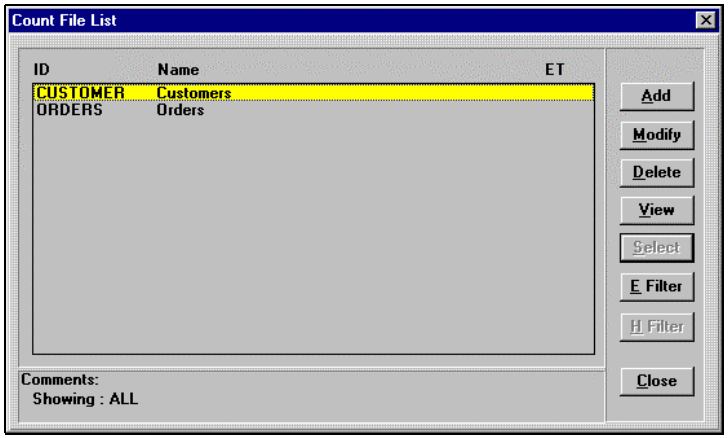
Logical Files may be altered to reflect changes specified by an Enhancement Project.

For this exercise, you will change the **CUSTOMER** files to reflect changes *made as a result of the Enhancement Project*.

To record changes to a logical file

1. From the main menu, select **Function Point Count**, then select **Count Files**.

   The Count File List is displayed.

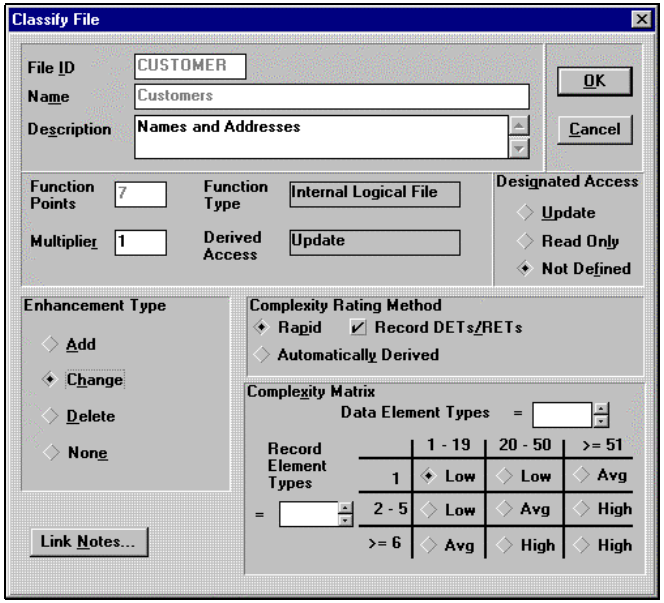


   The Count File List is displayed showing the files used by the Transactions in the hierarchy.

   In this dialogue box, you will highlight the file to be changed, then select Modify.

3. For this Exercise, highlight the **CUSTOMER** logical file, then select **Modify**.

   The Classify File dialogue box is displayed.



   In this dialogue box you will make changes which reflect the Enhancement Count functionality.

4. For this exercise, first select the **Enhancement Type**, then change the complexity rating as shown in the diagram above.

5. Select **Ok** to return to the Count File List.

   *The Count File List now shows the Enhancement Type as **[C]**. That is, the File is changed by the Enhancement Project.*

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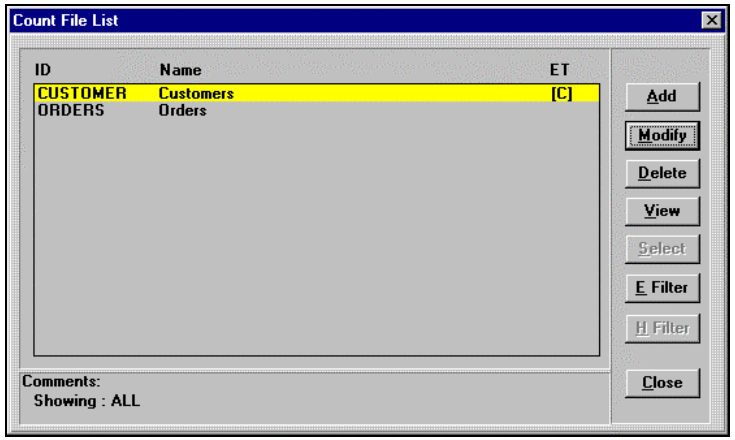


7. Select **Close** to return to the functional hierarchy.

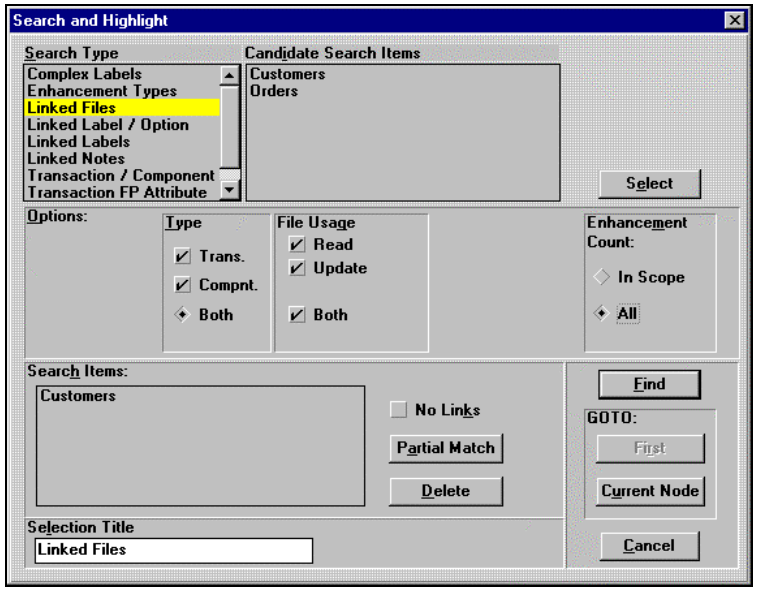
8. In this exercise, we have added a new record type to the **CUSTOMER** file. A change of this type to a File will often have a flow-on effect to Transactions using this File. As an exercise, we will highlight all Transactions accessing the File so that we can reconsider the impact of this change on the Project.

   As an Exercise, from the main menu, select **ViewOptions,** then **Search & Highlight.**

   The Search and Highlight dialogue box is displayed.

   From here, we will search for Transactions which access the CUSTOMER file..

9. As an Exercise, select (highlight) a **Search Type** of **Linked Files.** In the resultant **Candidate Search Items** list, select **Customers** for the **Search Item**, either by highlighting the item and double-clicking or using **Select.**



10. Use **Find** to search **All** the hierarchy for **Transactions** which **Read** or **Update** the **Customers** File. **GOTO** the First or return to the Current Node to view the highlighted Transactions.

Notice this benefit of building a complete model with Files attached to Transactions.

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Altering the Value Adjustment Factor

The General System Characteristics which are impacted by the Enhancement Project are recorded in the same way as for Development or Application Counts.

To alter the Value Adjustment Factor

1. From the main menu, select **Function Point Counting**, then select **Value Adjustment Factor**.

   The General System Characteristics are displayed.

   The General System Characteristics displayed in this dialogue box are those currently assigned to the Base Application Count.

   From here, any Characteristic may be selected and modified in order to reflect the Value Adjustment Factor for the Enhancement Project.

2. Highlight the General System Characteristic you wish to modify, then select the **Modify** button.

   The highlighted Characteristic is displayed.

   In this dialogue box, you may select the appropriate rating for the Characteristic.

3. Select **Ok** to record that rating and return to the **General System Characteristics** dialogue box.

4. Select **Close** to return to the functional hierarchy.

   The changed Value Adjustment Factor will be reflected in the reporting for this Enhancement Count.

Updating the Application Master

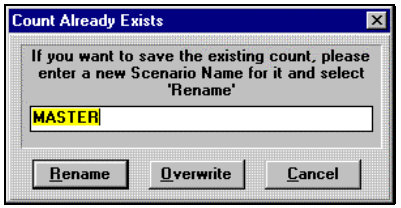
To update the master application

1. Change the Status of the Count to **Completed** as you did in Tutorial 2.

2. Select **Update System Master** as you did in Tutorial 2.

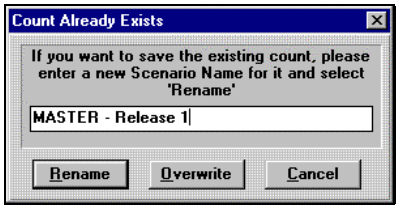
3. In the **Update System Master** dialogue box, select **Ok** to begin the update master process.

   *A **Count Already Exists** dialogue box is displayed. This message is displayed because there is already a MASTER count for system in the database.*


Count Already Exists
If you want to save the existing count, please enter a new Scenario Name for it and select 'Rename'
MASTER
Rename
Overwrite
Cancel

   Here you have the opportunity to rename the existing Master Count - thereby keeping it under a different name, or overwrite the existing Master.

4. For this exercise, type the new name **MASTER-Release 1** (as shown below), then select **Rename**.


Count Already Exists
If you want to save the existing count, please enter a new Scenario Name for it and select 'Rename'
MASTER - Release 1
Rename
Overwrite
Cancel

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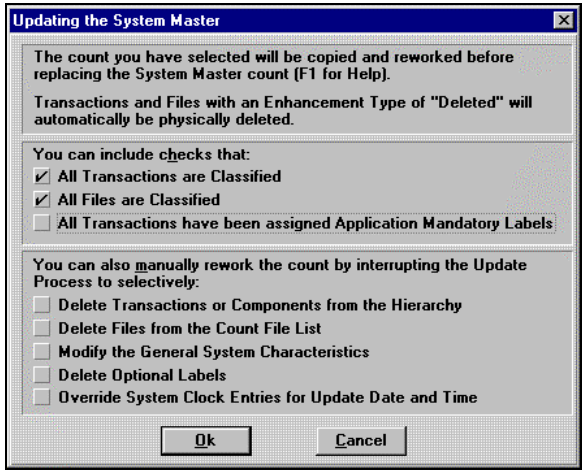
An Updating the System Master checklist is displayed.


Updating the System Master
The count you have selected will be copied and reworked before replacing the System Master count (F1 for Help).
Transactions and Files with an Enhancement Type of "Deleted" will automatically be physically deleted.
You can include checks that:
All Transactions are Classified
All Files are Classified
All Transactions have been assigned Application Mandatory Labels
You can also manually rework the count by interrupting the Update Process to selectively:
Delete Transactions or Components from the Hierarchy
Delete Files from the Count File List
Modify the General System Characteristics
Delete Optional Labels
Override System Clock Entries for Update Date and Time
Ok
Cancel

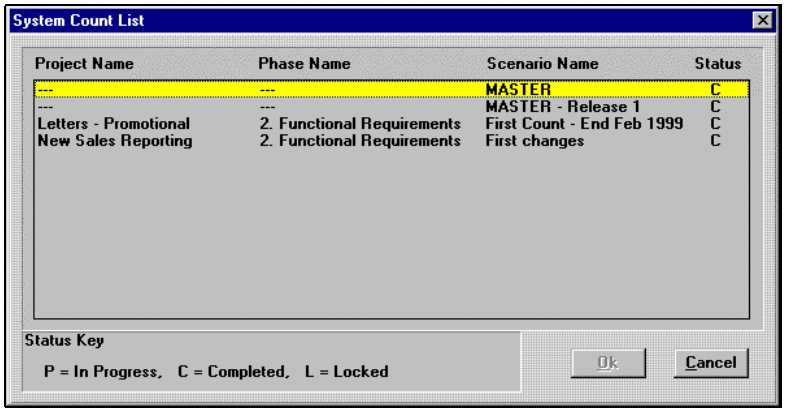
This is the same checklist of items we encountered in a similar exercise in Tutorial 2.

Notice the comment 'Transactions and Files with an Enhancement Type of "Deleted" will automatically be physically deleted'.

5. For this exercise, ***flag the first two items*** in the checklist as shown in the diagram above, then select **Ok**.

   As a result of the Update System Master process, the WORKBENCH now contains a number of ***SALES SYSTEM*** *Counts.*

6. To display the list of counts stored for the **SALES SYSTEM**, select **Tables** from the Main Menu bar, then **System Tables**, then **Count List.**


System Count List
Project Name
Phase Name
Scenario Name
Status
--- --- MASTER C
--- --- MASTER - Release 1 C
Letters - Promotional 2. Functional Requirements First Count - End Feb 1999 C
New Sales Reporting 2. Functional Requirements First changes C
Status Key
P = In Progress, C = Completed, L = Locked
Ok
Cancel

You have now completed the Tutorials introducing you to the major features of the FUNCTION POINT WORKBENCH™.

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